The International Trade in Coffee
(With Particular Reference to the Trade in Java Coffee)

A Thesis in Foreign Trade

Presented to the Faculty of the Graduate School of the University of Pennsylvania in Partial Fulfillment of the Requirements For the Degree of Master of Business Administration.

University of Pennsylvania
Philadelphia, Pennsylvania
June 1926

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PART I

INTRODUCTION

The origin or the first discovery of coffee is not definite, but careful investigations show that many authorities on coffee agree that the plant is indigenous to Abyssinia, and probably Arabia. The first coffee became known at least one thousand years ago, when it was mentioned in literature by a famous Arabian physician named Rhazes, about the year 900. He called it bunchum as most early Arabs did call the drink

"The word 'coffee originates from the Arabic qahwah, through the Turkish Kanveh. When it came to France and Germany it became cafe and Kaffee."(1)

The use of coffee as a popular beverage dates back 700 years after it was taken as a food, then a wine, and medicine. The whole ripe berries, beans and hulls were crushed and molded into food balls by the Galla, a wondering African tribe. The tribe together with the inhabitants of the island of Groix, on the coast of Britany, are still thriving on a diet that includes roasted coffee

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(1) William H. Ukers, Coffee Merchandising, pp.1

beans.

Following its use as a food ration, a kind or aromatic wine was made in Africa from the fermented juice of hulls and pulp of the ripe berries. Next a medicine was made by boiling the dried berries in water. About the year 1200, the practice began of making a drink from the dried hulls alone and boiling in water. Toasting the hulls followed, and about 1300, it was the custom to roast the dried beans after hulling and to boil them in whole. Grinding in mortars was a later improvement.(1)

While the coffee tree is native of Abyssinia, and probably Arabia, whence its cultivation spread throughout the tropics. Some authorities believe that the cultivation of coffee in Yemen, Arabia, was the first found in 575 a.d. This was the time when the Persian invasion put an end to the Ethiopian rule of the Negus Caleb, who conquered the country in the year of 525.

Thus coffee began to extend its territory and about the middle of the 15th century, the beverage had spread to Aden, Mecca, and Medina. In 1511, the drink reached Cairo.

It was not until 1600 that Baba Budan, a Moslem pilgrim

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(1) The complete history of coffee is related the first few chapters of Ukers' "All about coffee".

introduced the coffee into India. The tradition of that country related that Baba Budan planted his seeds of coffee near the hut he built for himself at chickmaglus in the mountains of Mysore, where, only a few years since, the greater part of the plants cultivated by the natives of kurg and Mysore appears to have come from the Baba Budan's importation. The English began the cultivation of coffee in India in 1840, and now the plantations extend from the extreme north of Mysore to Tutichrin.

In the latter part of the 16th century, the German, Italian, and the Dutch botanists and travelers brought back from the Levant considerable information regarding the plant and the beverage. In 1614, enterprising Dutch traders began to examine into the possibilities of coffee cultivation and coffee trading. In 1616, a coffee plant was successfully transported from Mocha, Arabia, to Holland. In 1658, the Dutch started the cultivation of coffee in Ceylon,although the Arabs are said to have brought the plant to the Island prior to 1505. In 1670, an attempt was made to cultivate coffee on European soil at Dijon, France, but the result was a failure.

In 1696, at the instigation of Nicolaas Witsen, the burgomaster of Amsterdam, Adrian Van Ommon, Commander at

Malabar, India, caused to ship from Kanaur, Malabar to Java, the first coffee plants introduced into that island. They were grown from seed of the Coffee Arabica brought to Malabar from Arabia. They were planted by Governor General Willem Van Outshoorn on the Kedawoeng estate near Batavia, but were subsquently lost by earthquake and flood. In 1669, Henricus Zwaardecroon imported some slips, or cutting, of coffee trees from Malabar into Java. There were more successful, and became the progenitors of all the coffees of East Indies.

The Dutch were then taking the lead in the propagation of the coffee plant. They being of a practical turn of mind, conceived an ambition to grow coffee in their colonial possession, so as to make their home markets headquarters for a world's trade in the product. In considering modern coffee-trading, the Netherlands East India Company may be said to be the pioneer, as it established in Java one of the first experimental gardens for coffee cultivation. This company was formed in 1602 and in 1614, it was urged to examine into the possibilities of coffee trading by Dutch traders.

In 1640, the first commercial shipment of coffee from Mocha arrived at Amsterdam and was offered for sale by Wurfbain. This was soon followed by regular imports from

Mocha into Amsterdam which began in 1663.

In 1690, the Dutch began a more systematic cultivation at Ceylon after viewing the prosperity and future expansion of the coffee trade.

The French were seeking to introduce coffee cultivation into their colonies. Several attempts were made to transfer young plants from the Amsterdam botanical gardens to the botanical gardens at Paris; but all were failures.

Early in the eighteenth century, Captain de Clieu arrived in Martinique and introduced the plants there which grew so rapidly. The first harvest was gathered in 1726, and from the seedlings of which came most of the coffee trees of the Antilles. So tiny was the plant which produced in the end all the rich estates of the West Indian Islands and regions bordering on the Gulf of Mexico. By 1777, there were 18,791680 trees in Martinique.

Coffee cultivation was first introduced into Haiti and Santo Domingo in 1715, and not long afterwards came hardier plants from Martinique. In 1715, the French company of the Indies introduced the cultivation of the plant into the Isle of Bourbon and the work was carried out by a ship captain named Dufougeret-Grenier from St.Malo. The cultivation did so well that nine years later the Island began to export the products.

In 1718, the Dutch began the cultivation of coffee in Surinam. Brazilian coffee plantation was started at Para in 1723 with plants brought from the French Guiana, but it was not a success. The English brought the plant to Jamaica in 1739. The Spanish missionaries introduced coffee cultivation into the Philippines from Java. In 1748, Don Jose Antonio Gelabert introduced coffee into Cuba, bringing the seed from Santo Domingo. In 1750, the Dutch extended the cultivation of the plant to the Celebes. Coffee was introduced into Guatemala about 1750-60. Intensive cultivation in Brazil dates from the effort in the Portuguese colonies in Para and Amazonas, in 1752. Porto Rico began the cultivation of coffee about 1755. In 1760, Joao Alberto Castello Branco began the cultivation of coffee in Rio de Janeiro, from the plants in Goa, Portuguese India. The news spread that the soil and climate in Brazil were particularly adapted to the cultivation of coffee. Monke, the Belgian monk, presented some seeds to the Capuchin monastery at Rio in 1774. Later, Joachim Bruno, became a patron of the plant and encouraged its propagation in Rio, Minas, Aspirito, Santo, and Sao Paulo. A Spanish voyager, Con Francisco Xavier Navarro, is credited with the introduction of coffee into Costa Rica from Cuba in 1779. In Venezuela, the coffee industry was

started near Caracas by a priest, Jose Antonio Monedano with seed brought from Martinique in 1784.(1)

Thus country after country pursuaded the cultivation of coffee in the seventeenth and eighteenth centuries. Such rapid expansion marked the success and the growing popularity of the industry. To spread farther and extend the coffee world, the cultivation of the plants reached Mexico in 1790. The seed being brought from the West Indies. In 1817, Don Juan Antonio Gomez instituted intensive cultivation in the State of Vera Cruz. In 1825, the cultivation of coffee was begun in the Hawaiian Islands with seeds from Rio de Janeiro. As previously noted, the English began to cultivate coffee in India in 1840. In 1852, coffee cultivation was begun in Salvador with plants brought from Cuba. In 1878, the English began the propagation of coffee in British Central Africa, but it was not until 1901 that coffee cultivation was introduced into British East Africa from Reunion. In 1887, the French introduced the plant into Tonkin, Indo-China. Coffee growing in Queensland was Begun in 1896, but has been successful in a small way.

In recent years, several attempts have been made to propagate the coffee plant in the southern United States, but

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(1) William H. Ukers, All About Coffee, Chapter 1.

without success. It is believed, however, that the topographic and climatic conditions in southern California are favorable for its cultivation.

So much has been said about the early history of coffee in various producing countries, let us turn to some interesting incidents connected with coffee drinking before we come to discuss its development. In 1511, soon after the drink had reached Cairo, and the coffee house had become a favorable resort, Kair Bey, governor of Mecca, being outraged by the extent to which the new drink was being consumed by the clergy and laymen, called a consultation of lawyers, physicians, and leading citizens,and succeeded in browbeating a majority into issuing an indictment of the beverage.While he issued an edict prohibiting its use, his master, the sultan of Cairo, ordered it revoked shortly thereafter.

In 1524, the kadi of Mecca tried his hands at closing the coffee houses, because of disorders, but permitted coffee drinking in private. By 1532, the coffee house had taken root in Damascus and Aleppo. In 1534, a religious fanatic denounced coffee in Cairo, and led a mob against the coffee houses, many of which were wrecked. The city was divided into two parties,—for and against coffee. To put an end to the agitation, the chief judge invited the leading physicians to a conference, and at the end not only served coffee

to all present, but drank some himself.(1)

The first coffee houses were opened in Constantinople in 1554 by Shemsi of Damascus and Hekem of Alepo. Here, too, religious zealots soon became jealous of their popular appeal, and about 1570 they put forward the argument that roasted coffee was a kind of charcoal, and, as the koran forbade the use of charcoal among other unsanitary foods, the use of coffee was against the law of the Koran. The mufti was so impressed by this that he ruled that coffee was forbidden by the law of the Prophet.

Although coffee drinking was forbidden by law, the people continued the habit in secret to such an extent that the civil officers, finding it useless to try to destroy general disobedience, permitted the sale of coffee privately. This was enough to reestablish the coffee houses by degrees. Then a mufti who was more knowing than his predecessor and declared that coffee drinking was not forbidden by the law, and that coffee was not to be looked upon as charcoal. By that time, there was a general renewal of coffee drinking; religious devotees, preachers, lawyers, and the muiti himself indulging in it, their example being followed by the whole court and the city.

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(1) Willam H. Ukers, Coffee Merchandising, pp.3

Because coffee drinking originated in Mohammedan lands, many churchmen in the 16th century were concerned about the propriety of permitting its use in Christendom, denouncing it as an invention of Satan. Discussion arose, and the disputants appealed to Pope Clement VIII for decission. The pope wisely decided to drink some before committing himself, and after tasting the beverage he exclaimed, "Why, this Satan's drink is so delicious that it would be a pity to let the infidels have exclusive use of it! We shall fool Satan by baptising it and making it truly Christian beverage."(1) This he did, and added the Church's seal approval to the waxing popularity of the harmless and invigorating decoction.

In 1615, Venice tasted coffee for the first time, but did not become popular later years when in 1645, the first coffee house was opened. A Cretan student at Oxford by the name of Canopios, brought the drink to England in 1637, and a Jew name Jacobs opened the first coffee house in England, at Oxford, in 1650. The first coffee house in London was opened by Pasqua Rosee, a greek youth, body servant to a London merchant, Daniel Edwards, who brought the boy from Smyrna with him.

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(1) William H. Ukers, Coffee Merchandising, pp.6

The first coffee came to North America in 1668. It was sold in Boston in 1670.

Coffee came to France in 1644, but it was not until the year 1671 that the first coffee house in France was opened in Marseilles. The next year Pascal, an Armenian, opened the first coffee house in Paris, at the Fair of St. Germain, and in 1689, Francois Porcope, a lemonade vendor of Florence opened the progenitor of the real French cafe called "Procope".

During the reign of Louis XV, the coffee house spread rapidly, and there were over 600 cafes in Paris. At the close of the 18th century there were over 800 cafes in Paris; in 1843, there were over 3,000 cafes. It is also recorded that Louis XV spent $15,000 a year for coffee for his daughters. Coffee did not experience violent opposition and suppression in France as it did in England in 1675, and in Germany in 1773.

The centers of the early coffee houses in the United States are in New York, Philadelphia, and Boston. At first these coffee houses were patterned largely after the English portotype, but gradually they became taverns, and not infrequently evolved into hotels. The national habit which made coffee the national drink of the United States started

when King George perpetrated the fatal blunder known as the Stamp Act about the year 1773.

So when coffee houses disappeared, coffee was foun to be strongly intrenched in the homes of the people, and it has stayed there ever since,—"King of the American breakfast table."

The first coffee house in New York was known as the King's Arms in 1696, which was followed by the historic Merchants Coffee House, sometimes called "the birthplace of the Union". In 1683, William Penn brought coffee supplies to his settlement on the Delaware from New York market, and paying for them at the rate of 18 shillings and 9 pence (about $4.68) a pound. In Boston, the London, Crown, and the Gutteridge were the best-known early coffee houses.

After relating the brief history of coffee houses in Europe and in America, we find that they served more than mere drinking places.They became the centers of intellectual life and forums of democracy. They played important part in the French Revolution, they ushered in the Common-wealth in England, and they helped to build up the American independence.

PART II

THE GROWING OF COFFEE

The history of coffee and its introduction to different parts of the world have been dealt in the previous part and they are necessary to form the background for our further discussion on the subject of the growing of coffee.

The circling belt of the earth which grows and will grow coffee lies between the Tropic of Cancer and the Tropic of Capricorn. Although coffee comes from the warm parts of the earth the better kinds are usually the products of trees grown with temperate climate in the Tropics. Unlike the ordinary type of tropical products, the coffee tree will flourish from sea level up to 6,000 feet high and the quality improves with the higher elevation. Coffee plantation at an altitude of over 1,000 feet is usually expected to produce a very good grade of coffee, though some specimen of coffee like "Java" (Arabica) coffee is seldom seen growing at an altitude below 3,500 feet.(1)

The coffee tree, while originally found in Abyssinia and Ethiopia, is nowadays grown in abundance in Java, Sumatra, and other island of the East Indies; in India, Arabia, equatorial Africa, the Pacific islands, Mexico, Central and South America,

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(1) Bureau of Foreign & Domestic Commerce, Netherlands E.Indies and British Malaya, pp.120, 1923

and the West Indies. The Commercial Coffee Chart on page 15 will show in greater detail the leading growths that find favor in the World's market.

Java and Sumatra are the principal producing countries in the East Indies; Arabia and British India are leading producers in Asia; the eastern coasts are the important centers of the African coffee supply; while in the North America, the coffee chiefly comes from Mexico, and in South America from Brazil.

In Java, coffee is produced in nearly every district, but the greatest portion of the yield is obtained from East Java. About 87 percent of the total Javanese production is produced in the regencies of Besoeki and Pasoeroean, in the eastern section of the Island. Some other districts better known to the trade are Preanger, Cheribon, Kadoe, Samarang, Soerabaia, and Tegal. The Residencie of Soerabaia is also in East Java.

There are three important varieties of Coffee in Java, namely; Robusta, Java (Arabica), and Liberia.(1) Beside the three mentioned there are many other varieties, but they are of secondary importance. Robusta, Java, and Liberia coffees were grown under the "culture system" or government control.

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(1) Netherlands E. Indian Dept. of Agriculture, Industry, and Commerce, Some Fact about Java Coffee, pp.2.

COMMERCIAL COFFEE CHART

World's Leading Growths, with Market Names and General Trade Characteristics

Grand Division	Country	Principal Shipping Ports	Best Known Market Names	Trade Characteristics
North America	Mexico	Vera Cruz	Coatepec Huatusco Orizaba	Greenish to yellow bean; mild flavor.
Central America	Guate-mala	Puerto Barrios	Coban Antigua	Waxy, bluish bean; mellow flavor.
	Salva-dor	La Libertad	Santa Ana " Tecla	Smooth, green bean, neutral flavor.
	Nica-ragua	Corinto	Mata-galpa	Large blue washed, fancy roast; acid cup.
	Costa Rica	Puerto Limon	Costa Ricas	Blue-greenish bean; mild flavor
West Indies	Haiti	Cape Haitien	Haiti	Blue bean; rich, fairly acid; sweet flavor.
	Santo Domingo	Santo Domingo	Santo Domingo	Flat, greenish-yellow bean; strong flavor.
	Jamaica	Kingston	Blue Mountain	Bluish-green bean; rich, full flavor.
	Porto Rico	Ponce	Porto Ricans	Gray-blue bean; strong heavy flavor.
South America	Colombia	Savanil-la	Medellin Manizalez Bogota Bucara-manga	Greenish-yellow bean; rich, mellow flavor.

From William H. Ukers, Coffee Merchandising, pp. 36

COMMERCIAL COFFEE CHART (Continued)

South America (Continued)	Venezuela	La Guaira Maracaibo	Merida Cucuta Caracas	Greenish-yellow bean; mild, mellow flavor.
	Brazil	Santos Rio de Janeiro	Santos Rio	Small bean; mild flavor Large bean; strong cup.
Asia	Arabia	Aden	Mocha	Small, short, green to yellow bean; unique, mild flavor.
	India	Madras Calicut	Mysore Coorg	Small to large, blue-green bean; strong flavor
East India Islands	Malay States	Penang Singapore	Straits Liberian Robusta	Liberian and Robusta growths for Malaysia.
	Sumatra	Padang	Mandeheling Ankola Ayer Bangis	Large, yellow to brown bean; heavy body; exquisite flavor.
	Java	Batavia Soerabaia	Preanger Cheribon Kroe	Small, blue to yellow bean; light in cup.
	Celebes	Menado Macassar	Minahassa	Large, yellow bean; aromatic cup.
Africa	Abyssinia	Jibuti	Harar Abyssinia	Large, yellow bean; very like Mocha.
Pacific Islands	Hawaiian Islands	Honolulu	Kona Puna	Large, blue, flinty bean; mildly acid.
	Philippines	Manila	Manila	Yellow and brown large bean; mild cup.

until the early part of the twentieth century when the government began release its hold. The following excerpts relating to the government cultivation of coffee are taken from the Year of the Netherlands East Indies, edition of 1916:

> "Of the products of forced cultivation under the 'culture system' coffee has been the longest under the control of the Government. It was until 1915 that the Government began give up the cultivation in Java, although it was abandoned in the Celebes as early as 1899 and in Sumatra in 1902.
>
> "Since 1870 the cultivation of coffee by private enterprise has increased, especially on the slopesof the volcanoes in the east Java. When the cultivation was in its infancy the so-called Java coffee (coffee Arabica) was almost the only kind planted, but after 1875 liberia coffee began gradually to take its place."

Robusta plants were introduced in Java from Africa in the year 1901, after Java and Liberia coffees had become so badly infected with the prevailing leaf disease that the cultivation of coffee was in great danger of being abandoned. Since its importation to Java, the Robusta coffee has been growing in favor with the planters, until at the present time it has a production larger by far than the other two kinds. The acreage of the plantations for Robusta coffee has also far exceeded the total of the acreage of the other two combined. The table on the following page shows the proportion of acreage of the plantation in 1919.(1)

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(1) C.f. Coffee Cultivation in the Dutch East Indies, pp.44-51, April 1920.

	In Hectares					
	Robusta	Java	Liberia	All others	Total	In Production
Coffee alone.....	9,654	3,221	625	518	14,018	11,527
With other culture....	5,346	929	881	835	7,991	6,189
With two cultures.....	3,003	653	92	382	4,130	3,316
With three or more....	1,948	111	149	788	2,996	2,687
Unmixed with others...	19,744	2,178	1,202	4,024	27,148	20,005
Mixed with others.....	81,215	913	3,618	2,634	88,380	52,749
Total in Hectares...	102,910	8,005	6,567	9,181	144,663	96,473
Total in Acres.....	298,769	19,780	16,228	22,687	357,462	238,387

The above figures are taken from the statistic, issued in September, 1919, by the Dutch East Indian Government, showing in hectares, the coffee planted and in production. It also shows that there were 144,663 hectares (357,462 acres) planted in coffee in the East Indies, including Sumatra, Celebes, and others.

We notice from the above table that about 84 per cent of the total acreage was in Robusta, 5½ per cent in Java (Arabica). 4½ percent in Liberia, and the balance in the various minor varieties of coffee, most of which were in the experimental stage. Official figures of the various crop areas are not exact and should be used only for general deductions.

Another thing of interest to us is that the largest part of the acreage under Robusta coffee is mixed with other cultures. It is grown principally as a catch crop with rubber, and in such cases is destined to be cut as the rubber matures. This is also true of a considerable proportion of

Liberia and the new, partly experimental varieties, but in the case of Java coffee the attention is given to the coffee plants and the major crop is the coffee. When the Java coffee trees are interplanted with rubber the rubber is for a secondary crop or for shade.

In 1919, the following production of Robusta coffee is given in the annual report of a leading firm of brokers of Soerabaia and Batavia, and the figures are considered to be the most reliable on this subject;(1)

	Piculs
West Java.	14,041
Middle Java.	33,836
East Java.	457,125
Celebes.	3,210
Sumatra.	204,019
Government estates	10,668
Total piculs	722,899
Total pounds	98,314,264

Beside the Island of Java, Sumatra and Celebes contribute a great portion of the coffee production of the East Indies. The fifth item of the figures above indicates that the government has a considerable share in the production.

Java (Arabica) coffee is second in point both of acreage and of production in the East Indies. In 1919, the estate production of this variety was as follows:

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(1)Bureau of Foreign & Domestic Commerce, Netherlands E. Indies & British Malaya, 1923, pp. 121
No later figures are obtainable.

West Java.	15
Middle Java.	37,736
East Java.	37,045
Government estate. . .	19,298
Celebes.	40,[illegible]98
Bali.	35,000
Sumatra.	25,735
Total piculs	158,181
Total pounds . . .	21,512,616

Liberia coffee is the third in point of acreage and in production. The 1919 crop is given as follows:

West Java.	1,369
Middle Java.	3,369
East Java.	337
Celebes.	817
Sumatra.	4,707
Government	2
Total piculs.. . . .	10,665
Total pounds . . .	1,450,440

In Sumatra, practically all the coffee destricts are on the west coast, with Padand as head-quarters. The best known districts are Ankola, Soboga, Ayer Bangies, Mandheling, Palembang, Padand, and Benkoelen. The east coast has recently gone in for heavy plantings of Robusta coffee.

Coffee is also grown in several other islands of East Indies, chiefly Celebes, Bali, Lombok, the Moluccas, and Timor. In the Malay States, Liberica is mostly grown. Other varieties are grown, but not extensively.

The above figures are obtained from the B. of F.& D. Com. 1923, N.E. Indies & British Malaya, pp.121

In India, half of the coffee-producing area is in Mysore; other plantations are to be found in Kurg (Coorg), the Madras, districts of Malabar, and in the Nilgiri Hills.(1)

In Arabia, coffee growing is confined to the mountains in the Vilayet of Yemen, an inland district along the southwestern coast. Coffee can be grown almost anywhere in Yemen, but it is cultivated entirely in small gardens in a few scattered districts, and the total acreage is not large.

Abyssinia, where coffee was first found in Africa, supplies two varieties of the crops known as Harar and Abyssinian. The former is grown in the province of Harar and chiefly around the city of Harar. The latter is the fruit of wild Arabica trees that grow mainly in the provinces of Sidamo, Kaffa, and Guma. Coffee also grows in Angola, where there are large areas of wild trees; in Liberia, Uganda, Nyasaland, and Kenya Colony.

The Kona side of the island of Hawaii produces the best known Hawaiian coffee. Other districts are Hamakua, Puna and Olaa.

The Philippines produce a negligible amount of coffee, as does also the Queensland district of Australia.

In French Indo-China, however, Robusta has been found to do very well. Some coffee is still grown in Ceylon, one of the oldest coffee-producing country but it is commercial-

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(1) Coffee in India, Indian Trade J. Supplement Nov.6,1913.

ly unimportant.

In Mexico, although coffee growing is widely distributed in most of the more southern states, the principal coffee territory is Vera Cruz, where lie the districts of Cordoba, Orizaba, Huatusco, and Coatepec. The Jalapa district and the mountains of Puebla, where considerable coffee is grown, are also in the same region. Farther south are the Oazaca districts on the mountain slopes of the Pacific Coast, and still farther south the districts in the state of Chiapas. The most recent district is Soconusco. On the Gulf slope of Oaxaca are many plantations; also in the western regions of the table lands of Colima and Michoacan. It must be remembered that Mexico produces almost entirely the coffee of northern section of the American continent, since the United States and Canada are not fit for coffee plantations.

Almost every republic in Central America produces coffee. The Guatemalan coffee is grown on the table lands of three great mountain ranges. The principal coffee districts are Costa Cuca, Costa Grande, Barberena, Tumblador, Cohan, Costa de Cucho, Chicacao, Xolhuitz, Pochuta, Malacatan, San Marcos, Chuva, Panan, Turgo Escuintla, San Vencente, Pacaya, Antigue Moran, Amatitlan, Sumatan, Palmar Zunil, and Montagua.(1)

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(1) C.f. William H. Ukers, Coffee Merchandising, pp. 35.

In Salvador, the coffee berry is grown in all districts that have altitudes of from 1,500 to 4,000 feet. The most productive plantations are in the departments of La Paz, Santa Ana, Sonsonate, San Salvador, San Vincente, San Miguel, Santa Tecla, and Ahuachapam.

The Costa Rican coffee-growing cistricts are usually found on the Pacific slope and in the central plateaus of the interior. The important plantations are in the provinces of Cartago, Tres Rios, San Jose, Heredia, and Alauoela.

In Honduras, the principal plantations are in the departments of Santa Barbara, Copan, Cortex, La Paz, Choluteca, and El Paraiso. British Honduras does not raise enough coffee for domestic consumption.

The most extensive plantings in Nicaragua, are in the departments of Managua, Carazo, Matagalpa, Chontales, and Jinotego.

In Panama, the greatest district for growing coffee is Bugaba, where great suitable areas exist, but the Boquete district in the province of Chirique produces the bulk of Panama's coffee.

There are various other coffee-producing countries that deserve mentioning in order to complete our general discussion of the coffee crop in the Caribbean area. Beside the six states of Central America, mentioned above are a group of islands in

the Caribbean Sea. They are known as West Indies, and practically every one in the group produces coffee, though in many of them, coffee is grown in small quantity. Little is produced for international trade with the exception of the island of Jaiti, Jamaica, and Puerto Rico.

In Cuba, a heavy crop was formerly produced, but now she has been forced to import from Puerto Rico to supply part of her own need, since her supply has not been sufficient to meet the domestic demand. Guadeloupe grows most of the coffee there, and small amounts are grown on Trinidad and Tobago.

The coffee districts in Porto Rico extend through the western half of the island begining in the hills along the south coast around Ponce and extending north through the center of the island almost to Arecibo, near the western end of the north coast. Out of sixty-eight municipalities, sixty-four of them grow coffee. Some of the important ones that have the largest plantations are Utuado, Adjuntas, Lares, Las Marias, yauco, Maricao, San Sebastian, Mayaguez, Ciales, and Ponce.

On the island of Haiti, the republic of Haiti and the Dominican Republic grow a large amount of coffee in comparison with the size of the island. In that island, the principal plantations are in the vicinity of the town of Moca, in the eastern or Santo Domingo section, and in the districts of Santiago, Bani and Barahona.

Four parishes lead in Jamaican coffee production, they are,—Manchester, St. Thomas, Clarendon, and St. Andrew. A few estates in the Blue Mountains produce the famed Blue Mountain variety.

We have thus covered the northern and central sections of the continent of America, including the group of islands in the Caribbean area. South America, which has the largest area for coffee growing, is at present taking leading role in international coffee trade. Brazil, the chief coffee producer of the whole world, has the most extensive coffee plantations with an estimated area of 1,158,000 square miles. This area extends from the river Amazon to the southern border of the state of Sao Paolo, and from the Atlantic Coast to the western boundary of the state of Matto Grosso. This area is larger than that section of the United States lying east of the Mississippi River, with Texas added. In every state of the republic, from Ceara in the north to Santa Catharina in the south, the coffee tree can be cultivated profitably, and is, in fact, more or less grown in every state, if only for domestic use. In the north, little attention is given to coffee growing with exception of Pernambuco, which has only about 1,500,000 trees, as compared with the 764,000,000 trees in Sao Paulo in 1922.

The chief coffee-growing plantations in Brazil are on plateaus seldom less than 1,800 feet above sea level, and rang-

ing up to 4,000 feet. The most important provinces growing coffee are Sao Paulo, Rio de Janeiro, Minas Geraes, Bahia and Espirito Santo.

In Colombia, coffee is grown in nearly all districts where the elevations range from 3,500 to 6,500 feet above the sea level, especially Antioquia (capital, Medellin); Santander (capital, Bucaramanga); Tolima (capital, Ibague); and the Federal District (capital, Bogota). The department of Cundinamarca produces a coffee that is considered one of the best of Colombian grades. The finest grade are grown in the foothills of the Andes, in altitudes 3,500 to 4,500 feet above the sea level.

Many of the Venezuelan coffee districts are far apart. Along the slopes and foothills of the Maritime Andes from the Colombian boundary to the Caribbean coast of Venezuela, they grow some of the finest grade of South American coffee. In this area they grow the best especially in the tierra templada (area with temperate climate) and in the lower part of the tierra fria (cold region or highland). The coffee is known as the cafe de tierra fria, or coffee of the cold lands. In these regions they have the equable climate, the constant and adequate moisture, the rich and well-drained soil, and the protecting forest shade which afford the conditions under which the plant grows and thrives best. On the fertile lowland valleys nearer

the coast grows the cafe de tierra caliente, or coffee of the hot land, but they are inferior in quality to the cafe de tierra de fria.

The British, Dutch, and French Guianas grow very little coffee, only little more than the need for home consumption.

In Ecuador, Peru, Bolivia, Chile, Paraguay, and Argentina, a small quantity of coffee is produced. Equador is the greatest producer among them with Cayo as the leading district.(1

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(1) William H. Ukers, Coffee Merchandising, Chapter V, show more detail, of method of cultivation.

PART III

THE METHODS OF CULTIVATION

Coffee-cultivation methods are pretty much the same in all coffee-producing countries, though there are always certain local variations. The trees are generally grown from seeds planted in shaded nursery beds, where germination will take place in about six weeks in the heavily wooded and sloping ground. When about a year old, the young plants are transferred from the nursery beds to the prepared ground where the forest trees have been cleared. They are set out in shallow holes at regular intervals of eight to twelve or even fourteen feet apart. From two to three months after planting the ground around the young plants is hoed, after which there is no further cultivation of the soil.

The planting seasons of different countries vary according to the nature of the soil and climate. In Java, planting is usually taking place from October to December. In Brazil, the planting seasons are divided into the wet season, running from September to March, and the dry, running from April to August.

In September, the coffee trees begin to bloom. The blossoms last about four days, and are easily beaten off by light winds or rains. In December the blooming season is over and the green berries appear. If the winds or rains are violent,

these berries may be similarly destroyed; so that great damage may be the result.

Shade and windbreak trees are used to protect coffee plants especially the Arabica coffee in countries subjected to strong chilly winds and intensely hot sunlight. In Java, the green manure, or "lamtoro" tree, was discovered in 1901,(1) and ance has proven to be the most satisfactory shade tree. these are planted at the same time as the coffee, one lamtoro tree toeach coffee plant. In Brazil, the planters find the banana trees to be quite satisfactory for such purpose.

At the end of two and one-half years, in the case of Robusta, the coffee trees begin to bear and are in full bearing from six year to fifteen years, though some trees give paying crops for thirty years. If the coffee tree is allowed to grow it may reach a height of 40 feet; so the planter prunes or tops it regularly to keep it from six to twelve feet. This mades for quality in the bean and facilitates picking.

Weeding is very necessary for such plantation, since the gardens must be kept as clean as possible at a reasonable costs. The first year weeding charge is usually the heaviest.

There are numerous pests and diseases that attack the trees, the worst known being a leaf disease (Hemileia vastatrix), which destroued the Ceylon coffee industry in 1869.

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(1) N.E.I. Dept. Of Agr.,Ind.,& Commerce, Some Fact about Java Coffee, pp. 4

The same leaf-disease caused by a fungus of a very noxious nature almost destroyed the Arabica coffee industry of Java in 1910. That disease spread by the monnsoon and proceeding from west to east in the course of some twenty years thoroughly changed the aspect of things, leaving, where it passed, in the place of thick, heavy green masses, ruins of naked stems, struggling feebly with death. At the present time only a small acreage of the former plantations has escaped complete devastation.

The harvest season usually begins in April or May and is finished in September. In the district to the south and east of Volcano Kloet of Java, where the soil is sandy, the picking continues during the twelve months, but the heaviest yield is during the months named.(1)

The yield from each tree varies from half a pound to eight pounds annually, though a single tree was known to produce twelve pounds under favorable conditions. The average production in Java is from 10 to 12 piculs to the bouw(1) for Robusta coffee after six years from time of planting. Some other varieties are expected to yield from fifteen to twenty piculs annually. The climate and soil of the Island has long been ideal for coffee culture, although in recent years the soil in some districts has shown the need of fertilizer. Robusta grows well at altitudes below 1,000 feet, though the bearing capacity, as indicated above, is smaller than some

other varieties and its bearing life is only about ten years, as compared with thirty years of Arabica at altitudes of 3,-000 to 4,000 feet. The Island of Sumatra has the advantage of having climate and soil similar to Java for the growing of coffee.

The Colombian coffee tree bears its first crop when four or five years old. The cultivation of the coffee tree is rather easy, because it is not subjected to unusual hazzards from the attacks of injurious insects or parasitic diseases. The coffee cultivation in Guatemala and Mexico has reached in high degree of perfection. The modern methods are employed.

The San Jose and Cartago districts of Costa Rica have a rich volcanic soil especially adaptable to coffee cultivation. The coffee cultivation in Porto Rico requires less labor in its preparation, because the island has the advantages of favorable soil, climate and temperature beside the virgin land of the interior, which is cleared in the usual manner. There the trees are planted eight feet apart, and hoeing and spading take the place of plow cultivation because of the lay of the land.

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(1) N.E.I. Dept.of Agr.,Ind.,& Commerce, Some Facts about Java Coffee, pp. 5
(2) 1 picul equals to 136 pounds, 1 bouw equals to 1.7537 acres.

In Panama, shade isnot needed in growing coffee, and the only cultivation consists of three or four cleanings a year to keep down the weeds. No plowing is required is required. In the Island of Haiti, the method of cultivation is very inefficient and the development of coffee industry has been for many years greatly retarded by this backwardness. In recent years there has been some little improvement. Most of the coffee grown there is Arabica, and the trees blossom twice before bearing, in January and April to May. Transportation in Nicaragua for the coffee industry is poor and costly and the development is greatly handicapped.

The volcanic soil in Hawaiian Islands makes the lands adaptable to the successful coffee growing. In Kona, the native "kukui" trees are used for shade, though most coffee trees are planted in the open. After two years, the yield per acre is between five to twelve bags of clean coffee. From three years to six years when the trees are fully matured, the production comes to as high as twenty bags. The Japanese are working in many plantations in those islands. In the Philippines, labor is cheap and abundant, and soil and climate are both favorable to the growing of coffee, enterprise is lacking.

The French and British governments fostered the modern methods for the cultivation of coffee in French Indo-China and British East Africa.

The coffee trees in India are cultivated under the shade or the original jungle trees. A great percentage of the coffee is of Arabica varieties. Robusta and Maragogipe have been experimented upon, but without success. The natives in Abyssinia pay little attention to cultivation. The only important work for them is to plant the trees in rows about 12 to 15 feet apart.

The Arabian coffee is planted on the slopes of the hills, and terraced with soil and small walls of stone. The young trees receive moisture from neighboring wells or from irrigation ditches, and are shaded by banana trees. The trees are usually allowed to grow to the height of ten or fifteen feet, and they bear flowers and fruits at the same time. Some of the fruits are still green while others are ripe or approaching maturity. Thus, in some districts, the trees are considered to have two or even three crops a year.

PART IV

HOW COFFEE BERRIES ARE PREPARED FOR THE MARKET

After the berries have been harvested the first operation to which they are treated is designated pulping. The coffee bean is so marvelously wrapped with a delicate silver-coloured skin as the first covering. The second is a rough texture called parchment, which is clad with a third one called pulp. The last wrapping is a thin, gossamer-like film, and incloses the soft pulp.

In order to prepare the raw beans, it is necessary to remove the four coverings,—the outer skin, the sticky pulp, the parchment or husk, and the closely adhering silver skin. After the coffee is removed from its hull and peel, it is called "hulled coffee".

There are two different methods used to pulp the coffee berries, the old and the new methods. The old method which is called the "dry process" was in general use throughout the world until in recent years. Under this method of preparation the berries are spread in a thin layer on open drying grounds, or barbecues, often with cement surfaces. The cherries are turned over several times a day in order to

permit the sun and the wind to dry all parts thoroughly. They are to treated in this sun-drying process for about three weeks, and each time they are covered with tarpaulins to protect them from rains and dews. On some plantation, hot air, steam and other artificial drying methods take the place of natural sun drying. In this method, before the drying process takes place, the husks are removed wither by hand on smaller plantations, or by hulling machines in a more modern plant.

As a rule the success of this older method is dependent upon the continuance of clear war weather over quite a length of time, This cannot always be counted on.

The more modern form is the "wet" method of preparation. It is generally practiced on the larger plantations which have sufficient water supply, and large capital to install the extensive amount of machinery and equipment required.

By this process, the coffee cherries are dumped into large concrete receiving tanks to be soaked for several hours, after which they are carried by streams of running water directly into the hoppers of the pulping machines. After the pulping is done the berries are carried to the fermentation tanks, for the purpose of removing such pulp as was not removed in the pulping machine. Washing is then applied to the bean as the next step after the floating pulp

at the top are removed.(1)

When the washing is done the coffee iscalled washed coffee andis still "in the parchment". The berries are then ready for the drying, the next step in preparation of green coffee. They are spread out thinly on a drying ground as in the dry method. The planters often employ machines which can be used to dry the coffee satisfactorily, if the weather is unsuitable or cannot be depended upon to remain fair for the necessary time. The machines dry the coffee beans in twenty-four hours, while ten days are required for the sun-drying. Still on some plantations, the drying is started in the open or by the sun and finished by machine. Either method is good enough so long as it dries the parchment ofthe coffee absolutely, because the coffee cannot, if stored before being perfectly dry, escape discoloration and deterioration.

When thoroughly dry the parchment can be crumpled between the fingers, while the bean within is too hard to be dented by finger nail or teeth.

Hulling or peeling, and polishing are applied to the beans as the last processes in the operation. On some small coffee farms in Java, the workers employed simply pound their coffee with heavy poles in big troughs. This is not true on more modern plantations, which use the services of husking machines for hulling or peeling the parchment. After the parchment is

removed, the coffee is usually passed through the polisher from which the silver skin is removed and the bean is given a special polish. Extra polished coffee or cafe de luxe is much in demand in the London, Hamburg, and other European markets. Thus, some coffees are highly polished before leaving the plantations, others are not quite so much, and still others are exported in parchment, which will be cleaned in the country of consumption. The coffees entering the United States are usually without parchments.

After the coffee bean has passed through the foregoing processes, that is, has been removed of its outer skin, the saccharin pulp, the parchment, and the silver skin, it is ready for the cleaning operations. But before it is ready for the trade of the world, it will be subjected to hand sizing or grading. This operation is important, since the price the coffee will bring in the market depends upon it to a certain extent.

In modern commercial practice, sizing, or grading by size, is done by machines that automatically separate and distribute the different beans according to size and form.

After grading or sizing, the coffee is picked over by hand to remove the faulty and discolored beans that are not removed by the machine. The higher grades of coffee are often picked over twice or double-picked.

By this time the product is ready for storing and is kept sometimes for one or several years. During this period the coffee must be turned over from time to time by means of rakes, but it must be borne in mind that storing coffee carelessly, causes the colour to fade and what is worse, small boring insects sometimes attack the product. However, storage improves the flavour and consequently increases the value.

In Java, Sumatra, and other coffee-producing regions of the Dutch East Indies, the coffee industry was begun and fostered under the paternal care of the Dutch Government, and for that reason machine cleaning and other processes done to coffee in the most improved fashion have always been a noteworthy factor in the marketing of this product. Since the government relinquished its control over the estates, private operators have maintained the standard of preparation, and have adopted more modern equipments and machinery similar in many respects to the types used by their competitors in Brazil andoother western countries. On the other hand, some small planters still believe in the employment of human labor, because, for lack of capital and skill, the volume of the production is too small for the adoption of machinery, or because since the wages

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For more technical details of the operation in preparing green coffee refer to Ukers' "Coffee Merchandising", pp.44-5.

are low, laborers are able to compete with the work of machinery.

In Brazil, almost every plantation, or fazenda as it is called, which has some commercial standing, installs the most modern of coffee-cleaning equipment. Some of the larger ones in the state of Sao Paulo, as, for example, the Dumont and the Schmidt estates, are provided with private railways connecting the fazendas with the main railroad line some miles away. Some of the larger fazendas cover thousands of acres, and have several million trees cultivated. The coffee is harvested, cleaned and transported by thousands of Italian, Indian, and Negro laborers.

The Colombian coffee-producers like many Brazilian large producers, have their plantation equiped with modern equipment for the wet method of preparing the coffee for market.

In Venezuela, the planters employ both the dry and the wet methods of preparation, producing both "washed" and "common"(1) and as in Colombia, a large part of the coffee is cleaned in the trading centers of the various coffee districts. Dry, or unwashed, coffee are known as trillado (milled), and compose the bulk of the country's output. Modern plantation machinery or equipment is very scarce; the ancient method of

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(1) The "Common" coffee is name given to coffee prepared in dry method, to distinguish it from "washed" coffee which has passed the washing operation in the wet method.

hulling coffee in a circular trough, where the dried berries are crushed by heavy wooden wheels drawn by oxen, is still a common sight in Venezuela. In preparing washed coffee, some planters follow the wet fermentation process, that is, they ferment the pulped coffee under water, while others ferment without water. This is called dry fermentation.

The Mexican coffees are prepared by both the dry and wet methods, the latter being practiced by the larger and more wealthy planters who have the necessary water supply and can afford the machinery. In more remote districts, one will find coffee being cleaned by the primitive hand-mortar and wind-winnowing method.(1)

As a result of the same backwardness, the planters in Salvador favor the dry method preparing green coffee, and the bulk of the crop is natural, or unwashed.

Both dry and wet methods of preparation are common in Haiti. In recent years better attention has been paid to agricultural and preparation methods, and the product is more favorably regarded commercially.

In Guatemala, Nicaragua, and Porto Rico, the planters favor the wet method of coffee preparation. Many of the larger plantations are worked by colonies of Americans and

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(1) Coffee growing in Mexico, American Chamber of Com. in Mexico, January 1920 pp.2-5

Germans, who are competent to apply the abundant natural water power of the countries to the operation of the modern coffee-cleaning machinery that has been introduced. This natural power from water makes it especially useful for Nicaragua to adopt the new system.(1)

The Costa Rican coffee growers perceived the idea of new coffee-cleaning machinery much earlier thatn their competitors in many parts of the western world.

In eastern hemisphere, the systematic method of preparation by machinery is employed to a great extent in large coffee-producing countries. Java, as has been described, was one of the first countries to take advantage of modern methods.

On many plantation in Arabia, the primitive ways of preparation still prevail. The cherries, after they are picked, are left to dry in the sun on the housetop,terrace, or on a floor of beaten earth. When they have become partly dry, they are hulled between two small stones, one of which is stationary, while the other is worked by the hand power of two men who rotate it quickly. Further drying of the hulled berry follows.

The beans are then subjected to further cleaning by the principal foreign export houses to which they have come from mountains in rather dirty condition. First, the coffee beans

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(1) Coffee, Guatemala's chief source of wealth, Commerce Report, No.38

are separated by Indian women from the dry empty husks by tossing the whole into the air from bamboo trays, the workers deftly permitting the husks to fly off while the beans are caught again in the tray. The second process is the surface cleaning by passing them gently between two very primitive grindstones worked by men. A third process is the complete clearing of the bean from the silver skin, and it is then ready for the final hand picking. Hand-power machinery is used to a certain extent, but usually the old-fashioned methods hold sway.

In Abyssinia, the natives do not care to use machinery in the preparation of Abyssinian coffee, which is the product of wild coffee trees, and in only a few instances machinery is used in cleaning the Harari coffee, the fruit of cultivated trees. Both products are raised chiefly by natives, who adhere to the oldtime dry method of cleaning. In Harar, the coffee is sometimes hulled in a wooden mortar; but for the most part it is sent to the brokers in parchment, and cleaned by primitive hand methods after its arrival in the trading centers.(1)

The labor in Angola is very scarce, and the planters are compelled to borrow native soldiers from the govern-

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(1) William H. Ukers, All About Coffee, pp.163

ment to aid in harvesting. After picking, the beans are dried in the sun for 14 to 40 days, depending upon the weather. When the drying is done, they are brought to the hulling and winnowing machines. The districts of Cazengo and Golungo are the most progressive and have about twenty-four of these machines now.(1)

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(1) William H. Ukers, Coffee Merchandising, pp.59

PART IV

MERCHANDISING OF GREEN COFFEE

Having discussed the preparation of green coffee for the market in preceeding part, let us turn to the merchandising of the product in the producing countries, and the distribution and consumption of the product in other countries. The buying and selling together with the shipping of the product is an important factor of the coffee industry which requires several years of study and practice to achieve success.

Since the coffee is not produced in one place, where only one language is spoken and the custom of the inhabitants is identical, it is therefore necessary for those who seek businessiin various producing countries to study thoroughly the languages and customs of different nationalities. For example, a coffee merchant who is buying coffee in Aden or Harar is required to have a knowledge of ten different languages or dialects in order to get the best result. Of course, this is not common with other coffee-producing countries, but, yet the necessity of foreign language is significant for those who have business abroad.

Likewise is true for the producers of coffee in the Tropics who must be able to understand the languages of their customer in order to sell their products successfully. This sill concern us more when we come to the discussion of coffee merchandising in countries other than the producing regions.

Even though coffee is produced in the Tropics, it is by no means true that it is produced and handled in the same manner in one country as it is in another. We have already discussed the different methods of preparation of coffee used in different countries. Since different countries used different ways of preparation, they do, undoubtedly use different practices of merchandising. Such practices used in the coffee trade among the Latin Americans may be slightly different on account of the geographical positions of the countries, and the people are descendants of the same stock. But if we compare the trade practices of Brazil with those of Java and other producing countries which are thousands of miles apart, we can scarcely find any similarity.

Here are some of the difference. In Java, the coffee crops are sold by public tender, usually on or about the last week of January of each year. If the owners do not get the price they desire in Batavia, the coffee is usually sent

to Amsterdam for disposal.

"Before the Java coffee trade began to decline in the later part of the 19th century, coffee Arabica was grown abundantly throughout the island, and almost every residency had numerous estates, which their names were given to the coffees produced. The best grades usually came from Preanger, Cheribon, Buitenzorg, and Batavia residencies. All Java coffees are commercially known either as private growth, or an blue bean washed, the former being cured by washing or the dry method, while the latter are washed"(1)

Java coffee will give better flavor when stored in the godown for two to three years until it becomes mellow with age."Under the old culture system, the government held the coffee for a certain length of time before it would be sold abroad"(2) This usually enhanced the value and the price paid for it. Nowadays, Java coffee is sold at any time the planters wish to dispose of their products, and the only chance of storing is during the long sea voyage from the Java port to ports of destination. Some coffee went through a sweating process during the voyage, and the colour of the bean turned from a light green to a dark brown, and consi-

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(1) According to information froma coffee merchant in Java

(2) William H. Ukers, Coffee Merchandising, pp.65

derably increased their cup values. These sweated beans commanded from three to five cents more than those which came in "pale".

All Sumatran coffees are sold practically in the same way as those of Jova coffee. If the owners are not satisfied with the prices offered at Padang, they then send the coffees to Amsterdam for the same purpose.

As regarded by many, Sumatra has the reputation of producing some of the finest and highest-priced coffees in the world, such as Mandheling, Ankola, Ayer Bangis, Padang Interior and Palembang. The first three grades are known in the trade as the"Fancies", and are considered the best of Sumatra's production. Padang Interior is the best known to the American market. These coffees are produced on what were formerly termed government estates and during the heyday of government control were sold by auction and came to the United States in great quantity. Some coffee traders said that Corinchies which rank first for quality among the private-estate coffees, are the best in international commerce. Other East Indian products are not widely known in foreign markets, though Menado coffee, grown in the province of Menado, Celebes, is thought by many to be of superior quality, and commands a high price in European markets.

In the East Indies, the languages used are Dutch, Javanese, Malay, and other Sundanese tongues. It is necessary for coffee buyers there to understand all of them.

In a country like Brazil, a knowledge of Portuguese is the first essential for a foreigner seeking to establich a business in coffee there. Many English, German, French, and American coffee companies have branch offices in Rio de Janeiro and Santos, with resident buyers who have had long experience in the coffee business, and intimate knowledge of Brazilian manners and customs, and are, moreover, able to converse fluently in the native dialect.

The Brazilian growers usually send their crops to their commission merchants at Santos, Rio de Janeiro, Victoria, Bahia, etc.(1) At these various ports, the coffee is cleaned and stored in private and public warehouses, where samples of each bag are taken. These samples are divided into two parts; one for the seller, and one for the commission merchant who retains them until he has sold the consignment of coffee covered by that particular lot of samples.

The work of the commissario, or commission merchant, is so unique and may be practice only in Brazil. He usually displays his samples on the street, one set at a time, and

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(1) William H. Ukers, Coffee Merchandising, pp. 62

names his "asking" price, which is the maximum rate he expects to get, but seldom receives. A single set of samples may be shown to twenty-five or thirty coffee ex orting houses in a day, one at a time. When the sample is in the hands of a firm for consideration, no other exporter hasthe right to buy the lot even at the asking price, and the commissario cannot accept other offers until he has refused the bid. On the other hand, if ahouse refuses to give up the samples, it is understood thatit is willing to pay the "asked" price. The firm first offering a price acceptable to the commissario's broker getsthe lot, even though other houses have offered the same price.

The exporting house, either native firm or representative of foreign concern, after buying a lot of coffee, usually grades and tests it and then ships it overseas. in this process, the exporter must obtain a consular invoice, a shipping permit from both federal and state authorities, and pay several state and export taxes before the coffee is permitted to be sent aboard the ship. If the exporter is a native Brazilian,he collects his money by drawing a draft against his American or European customer on deposit of bill of lading, cashing the draft through an exchange broker. In Santos, there is one such coffee exchange broker known as the Bolsa de Cafe, to which coffee

brokers of Brazilian citizenship may belong, but they must be indorsed by three reputable commission men or exporters, and may not themselves be a partmer in any mercantile firm nor deal on their own account in spot or future coffees.(1)

Unlike in the New York Exchange, the street transactions are permitted in Brazil, and in fact, the bulk of the business in done in the street, but the exchange must be informed oa all transactions. The Centro do Commercio de Cafe, and exchange in Rio de Janeiro serves the same purpose as thatof the Bolsa de Cafe in Santos.

The cable quotation used for Brazilian coffee are the marker prices in Rio or Santos of ten kilograms of coffee;(2) the price stated in milreis,(3) the monetary unit of Brazil currency. The value of this paper currency is not stable; and the milreis quotation means nothingunless it is considered in terms of the rate of exchange for the samd day.

The basis grade of coffee at Rio is the No.7 of the New York Exchange, and at Santos the international standard of good average Santos. The Rio coffeeis recognized by the American trade in eight different grades, designated by numerals from one to eight. As a rule the Rio coffee is not

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(1) "Spot" coffee means the product that already at hand, while "future" often signifies the coffee which is still on the tree.

(2) One kilogram is equaled to 2-1/5 pounds, and the 10-kilogram standard of quantity is just one-sixth of a standard Brazilian bag.

(3) The par value of paper milreis (1,000 reis) is 32.45 U.S.¢

favored by the American consumers, but its low price recommends it to some packers. The demand for all grades of Rios has been decreasing, and their place in the United States is taken by Santos coffees which are considered thebest coffees for their price, and are the most satisfactory low-cost blending coffee to be obtained. The best among these is known as Bourbon which is often used withpractically any of the high-priced coffees to reduce the cost of the blend. The true Bourbon is obtained from the first few crops of Mocha seed, and after the third or fourth year of bearing, the fruit gradually changes in form, yielding in the sixth year the flat-shaped beans which are sold under the trade name of Flat Bean Santos.

Some traders denied that Santos coffees improve in quality with age. In the careful cup testingthey revealed that a new-crop Santos is to be preferred to an old crop.

Other Brazilian varieties are known as Victorias, Bahias, Maragogipe, etc. Victorias were not common in American markets until the modern machinery wasintroduced for handlig the crops which improved the character of the product to a great extent.

Bahia coffee has increased in favor in the United Stats since the old process of drying the coffee by means of wood fire has been abolished, and the smoky flavor of the product

is improved.

Maragogipe coffee is the largest of all coffee beans. This coffee is now found in practically every producing country, and shows the characteristic of the native coffee.

In Arabia, most of the coffees is grown in almost inaccessible mountain valleys by native Arabs, and is transported by camel caravan to the ports. Not infrequently, the coffee is sent to the local market at the foot of the mountain. There, on regular market days, the Turkish or Arabian merchants, or their representatives, buy and dispatch their purchases by camel train to Hodeida or Aden. When it arrives at the ports, it is either sent directly to foreign countries, or sold to agentsof foreign importing houses. Mocha was onee the principal exporting city for coffee, but was abandoned as a coffee port early in the nineteen century. Mocha coffee derived thename from this port and is grown in Yemen district of Arabia, and brought to Aden either by sea or overland.

Before the World War, many of the importing and exporting houses had agencies in Hodeida, where the finest qualityies were bought on the spot; but sinee the war few of these agencies have again been opened, although their installation is in many cases awaiting the developments of the market.

The present method of obtaining coffee in Aden is from

the native merchants or brokers, who send around samples to exportinghouses. The prices set by these exporting houses sometimes depend upon the amount of probable loss from impurities. It cost about twenty-five cents a pound to buy coffee in 100-bag lots in Aden from a native broker.

The coffee is generally packed in ten maunds,(1) so that a single bag contains 2½ cwts. For export, the coffee is usually repacked into bags of six to 6.4 maunds.

The coffee in Abyssinia is grown by small planters, who mostly finance themselves and sell the crop to native brokers, who in turn sell it to representatives of foreign houses in larger trading centers. The methods used for the transaction between the broker and farmer are little different from the old barter system. In the Harar district, the women of the farm living near Harar, the market center, carry the coffee in long shallow baskets on their heads to the native brokers. In more remote places, the small planters waits for the broker to call upon him. In the southwestern section, where Abyssinian coffee grows wild, transportation of the product to the nearest trading center is done by mule train, and very often by camel back.

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(1) One maund equals to 28 pounds.

The coffee planters in Harar must pay the tax to the government and bring the product to the custom. After this is done he may sell it to European merchants through native brokers, whereupon the coffee is prepared for further shipment. It is usually transported from the town of Harar by mule or camel train to Dire-Daouna, whence it is shipped by rail to Jibuti, to be sent by direct steamers to Europe, or across the gulf of Aden to Aden in Arabia.

In Jubuti, the Harar coffee costs about 18 cents a pound in 300-bag lots.

Not many years ago, before the World War, the Colombian coffee trade was in the hands of larger exporters of coffee of the country, who were also the larger importating merchants. They supplied the small planters with funds, merchandise and supplies against the security of future crop delivery. When the small planters have complete their delivery to the exporting merchants at the end of the picking season, they may secure the necessary supplies for the next cropsfrom the merchants. When the beans are in the hands of the merchants, they are cleaned in the local coffee-cleaning plants, sacked, and shipped for export on the merchants' own account. Most of the profit derived from the crops goes to the exporting merchants' pockets, the small planters really receiving a

small part of the profit.

This is one of the evils of the coffee industry in practically all coffee-growing sections. The small planters are always without funds and are charged a high rate of interest for the borrowed money; beside some other privileges they have to give to the owners of coffee plants or the exporting firms who financed them. Even the larger planters often met with the same difficulties. They often obtained advances on their crops from the importing houses in New York, Havre, Hamburg, or other foreign centers.

In 1919, a fortunate even relieved the small Colombian planters of their misery, and the situation became so favorable to the small planters that it has mean a revolution in the coffee trade andindustry of Colombia. During that year there was an acute speculation in New York, which was induced by the high prices for Colombian coffee. There was an active competition in coffee buying, intensified by the activity of a large American export and import concern, with the result that the producer received a much larger margin of profit for his coffee and more actual cash than ever before. The small planters have been sought out for their products with cash offers, instead of cominginto town, or the nearest large commercial center, about twice a year, at the end of

picking seasons, November-December and April-May-June to solicit merchandise and a small loan from their customers. They have also escaped from the prevailing high interest rates, and have been able to buy the materials best suited to their interests. They are no longer controlled by the local merchants, and they have money in hand with which to enlarge their plantations. They can purchased better equipment, and improve their living conditions.

The Colombian exports to the United States were formerly financed by 30-,60-, and 90-day drafts drawn by the exporter (by arrangement with American consignee), generally for two-thirds the markets value of the merchandise at time of shipment. But in recent years American banks are established in Colombia, and they handled a growing proportion of the export business to the United States. The planter turns over his coffee to the bank for export, the bank recognizes a credit in his favor for two-thirds the market value, and when the goods are sold, the credits him with the balance, less expenses, interest, commission, and exchange. The terms on which these credits are generally arranged, both locally and in New York, are 2½ percent for local transactions.(1)

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(1) The Colombian Coffee Industry, Colombian Review, Vol. 3 pp. 28, November 1924.

So far we have discussed the primary transaction between various parties interested in coffee trade, and also we covered the methods of financing coffee growers and purchasing the product itself, and so one. Now, we will come to the additional expenses and time required in shipping the coffee overseas before the consuming markets are reached. The time required varies from four days for Mexican coffee to come to New Orleans, eleven days to eighteen days for Brazilian to New York, about one month is required for Java to come to New York, and from twenty to forty days for Mocha from Aden to New York. From South American exporting ports to European ports the time required varies according to the facility of transportation. The product of one South American country has to be brought to the port of another South American country for shipment to Europe or to the United States. Direct steamers from the producing country to the consuming country are very rare, except at the big ports.

The freight rates are also not constant, on account of the different distances between the various coffee exporting ports to the various ports of destination. Again, some steamship companies have lower freight rates than others.

PART VI

The Grading, Blending, Roasting, and Grinding of Coffee

The standard used for coffee grading varies in different countries with different proucts. Very often the same variety grown in two different countries obtains two different names of trade. This is due to the fact that one kind of coffee, say Arabica, grown in one country like Java may nave a suqerior quality , and different form from, other Arabica produced elsewhere.

The three principal products in Java are coffee Arabica, Liberia, and Robusta. Arabica or "Java" coffee is the best among the three, and the first class grade on this variety is known in the trade as F.A.Q. grade, which commands the highest price in the market. The second best grade is known in the trade as the W.I.B. grade, which is a mixture of the F.A.Q. grade and other inferior grade. The third grade is known as Gesorteerd grade, and the fourth which is about the cheapest in quality, is known as G.B. grade (Gewone Beleiding or Common Breeding). The F.A.Q. grade has no thin covering,

(1) The various names known in Java's coffee trade mentioned above are obtained from information from Java

and they are very clean. There is only one standard quality in this grade, and the buyers need not worry about the fineness of the beans when they purchase by contract. In the case of G.B. grade, the poduct is again divided into two or three different standards of quality, and the buyers must be assured of the character or the beans before the purchase is made by contract.

In Brazil, all Santos coffee, washed or natural, are graded as, 1 Fine, 2 Superior, 3 Good, 4 Regular, 5Ordinary, 6 Escolha. In Rio de Janeiro, the coffee is classified by the American trade into eight different grades, designated by numerals from one to eight. The larger numbers represent the inferior quality.

The Colombian coffees are graded as Excelao (excellent, or the highest grade), fantasia (excelso and extra), extra, primera (first), segunda (second), caracol (peaberry), monstruo (large and deformed), consumo (defective), pasilla (sifitne).

Some counties classify the coffee according to the number of imperfections it contains, such as the black beans, broken beans, shells, immature beans ("quaker"), stones, and pods.

The New York Coffee & Sugar Exchange, one of the most important exchanges in the world, because of the volume of

its business, deals in all coffee from North, South, and Central America, The West Indies, and the East Indies and uses this method of grading. It takes the black bean as the basis of counting all imperfections, which no matter what they may be, are calculated in terms of black beans, according to a scale below:

3 shells equal.	1	black bean
5 quakers equal	1	" "
5 broken beans equal.	1	" "
1 pod equals	1	" "
1 medium size stone equals. .	1	" "
2 small stones equal	1	" "
1 large stone equals . . .	2.to3	" "

By this scale,a coffee containing no imperfections would be classified as type No.1. The test is made on one-pound samples. If a sample shows six black beans, or equivalent imperfections, it is graded as No.2; if 13 black beans, as No.3; if 29, as No.4; if 60, as No.5; if 110,as No.6; if more than 110, as No.7 or No, 8, which are graded by comparison with recognized exchange types. Any coffee which is graded lower that No. 8 is not admissible to the United States.

The above scale is from Uker' " Coffee Merchandising" page 70.

Coffee blending is becoming so important in the coffee industry, that with comparatively few exceptions (as old Java coffee), no unblended coffee enters the market. Most package coffees are blends, and rarely is a single kind of coffee drunk straight. The common practice in all countries is to mix different varieties having opposing characteristics so as to obtain a smoother beverage. As a matter of fact, the art of coffee blending has deep economic significance to the coffee merchants. On the one hand, it is a means of developing the aroma and flavor to the full, and on the other, it allows a lowering of cost while maintaining essential quality; these are the two weighty points of the business side of the art of blending.

Most roasters blend the different types of coffee when green. Some blend them after they have been roasted separately. When blended before roasting the coffee are mixed by a machine built especially for that purpose.

The real difficulty of blending rests not on the operating or mechanical side of the work, but on the skill of obtaining the desired flavor by mixing the different varieties of the coffee. Some blend may consist of two kinds of coffee, but the general practice is to employ several kinds; so that if at any time one cannot be obtained, its absence from the blend will not be so noticeable as would be the case if only

two or three kinds were used.

In blending coffees, consideration is given first to the shades of flavor in the cup and next to price. The blender must be able to describe flavors as acid, bitter, smooth, neutral, flat, wild, grassy, groundy, sour, fermented, and hidy, and he mixed the coffees accordingly to obtain the desired taste in the cup. Personal preference is the determining factor in this, and some blenders prefer a coffee with plenty of acid taste, while others choose the non-acid cup. To obtain the former flavor, the blender will mix together the coffee that have an acidy characteristic, while for a non- acidy blend he will mix an acidy growth with one having a neutral flavor. It is the work of the blender to get a good result, and he, naturally, should avoid as much as possible, the wild, sour, groundy, fermented, and hidy kinds. He should have a full rich body as a basis for properly balanced blend, and to this should be added a growth to give it some acid character, and one to give it increased aroma. But in all matters of taste it is the sonsumer who rules supreme, and his taste and habits are the fundamental basis of the coffee trade.

The full understanding of the consumer's taste and a

The art of blending. Tea & Coffee Trade Journal, pp 587 October 1925.

For the process of blending refer to "Coffee Merchandising page 105.

good knowledge of blending are often acquired by dealy bought experience, and must therefore, be reckoned as among the valuable, if not tangible, assets of a coffee firm. Any firm who understands blending has it in its power to bring about a favorable relation between price and quality, and it is for this reason that the firm throws a veil of absolute secrecy over its special mixture.

For blending purposes the coffees from various countries may be divided in general, into four great classes,- the neutral- flavored, the sweet, the acidy, and the bitter. All East Indian coffees, except Ceylons, Malabars, and the other Hindustan growths, are classified as bitter, as are old brown Bucaramangas, brown Bogotas, and brown Santos. The acid coffees are generally the new-crop, washed varities of the western hemisphere, such as mexicans, Costa Ricas, Bogotas, Caracas, Guatemalas, Santos, Etc. However, the acidity may be toned down by age so that they become sweet or sweet-bitter. Red Santos is generally a sweet coffee, and is prized by blenders. High-grade washed Santo Domingo and Haiti coffees are sweet both when new crop and when ages. Good grades of Costa Rican coffee, such are grown in the Cartago, San Jose, Alajeela, and Grecia districts at high altitudes, are highly esteemed by blenders. They are characterized by their fine flavor,rich body, and sharp acidity.

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(1) Coffee Brewing in Variety, Good Home, Vol. 75.pp79 Nov. 1920.

Skillful coffee blenders do not mix two new-crop acid coffees, or two old-crop bitter kinds, unless their bitterness or acidity is counteracted by coffees with opposite flavors. Some blenders declares that every blend should contain three different characteristics.

For the highest-priced, coffee blenders usually put two-thirds of a fine private-estate Javaor Sumatra and one-third Mocha or Long-berry Harari.

Typical low-priced coffee blends in the United States may be made up of a good Santos, possibly a Bourbon, and some low-cost Mexican, Central American, or Venezuelan coffee, the Santos Counteracting these acidy Milds.

Going next higher in the scale of price, fancy old Bourbon Santos is used with one-third fancy old Cucuta or a good Trujillo.

For a blend costing about five cents more a pound retail, one-third fancy old Cucuta or Merida is blended with fancy old Boubon Santos.

With so wide a choice of coffees to choose from, a coffee blender can make up many combinations to meet the demands of his trade. Probably no two blenders use exactly the same varieties in exactly the same proportions to make up a blend to sell at the same price. However, they all follow the same

general principles laid down in the foregoing flavor classification of the world's coffees.

Since the blending of coffee depends so much upon the nature of business, whether wholesale or retail, capacity of the plant, nature of equipment class of trade sought, price of blend, etc., the formulas for coffee blends are best worked out in actual experience.

Coffee roasting, like the blending of coffee requires considerble experience and intelligent application to attain a success. It is work of a sort which anybody can do, which a few people can do really well, and no one so well but that further improvement is possible.

Because coffees very greatly in moisture-content, in flinty or spongy nature, and in various other characteristics, the coffee roaster must establish a personal acquaintance which them in various combinations in repeated roasting operations. He must be able to observe closely, to draw sensible conclusions, and to remember what he learn. Roasting principles very in different green coffees, that trained study and a nice scince in timing the roast and manipulating the fire are necessary to a perfect development of aroma and flavor.

Modern coffee-roasting machines provide for easy control of the heat (from coal, coke, or gas fuel), for constantly mixing the coffee in such a manner that heat is transmitted uniformly to the entire batch, for carrying away all steam and smoke rapidly, for easy testing of the progress of the roast, and for ommediate discharge when desired. The operator's problem, therfore, is the regulation of the heat and deciding when the roast has been done .

For more detail of the roasting operation cf. page 111 of "Coffee Merchandising"

cf. page III

cf. "Coffee Percolating"

Coffee roasting requires a temperature of about [illegible]° fahr. Some roaster men prefer a slow roast, while others favor the quick, and argue that a slow roast bakes the coffee and does not give full development. There is no absolute standard of what best roasting results are. Some dealers want the coffee beans swelled up to the bursting point, while others would object to showy development. [illegible] care nothing at all about appearance, while others [illegible] on a bright style even at some sacrifice of cup value. Business [illegible] decide what goods can be sold most profitable, and there is no universal rule the degree to which coffee should be roasted."[1]

Cinnamon, medium, high, city, full city, French and Italian. The light roast is the lightest and requires the least time of operation. Cinnamon is a few degree darker and next are the medium and high. The city roast is a dark bean, while still darker is the full city. In the French roast, the bean is cooked until natural oil appears on the surface, and the Italian roast is that when the bean reaches the point of actual carbonization, so that it can be easily powdered. The German likes a roast similar to the French, and the Scandinavian wants the high Italian roast for the coffee.

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[1] Coffee Brewing in Variety, Good Home, Vol. 75, pp. 79, Nov. 1920.

In the United States, the average tome required is from 15 to 20 minutes, depending on the ruel and machine employed and the degree of the roast desired. The Pacific Coast prefers the lighter roast: the eastern states want the medium roast: and cinnamon roast is avored by Boston. The southern states prefer only the dark roast.

The loss of weight for coffee when roasted varies according to the kind of bean its age, and the tyle or roast. In Java, the lost of weight for the cheaper grade of coffee is usually higher then the best coffee by 3 to 5 %. The average loss is about 16 per cant. It has been estimated that 100 pounds of coffee in the cherry produce 45 pounds in the parchment; that 100 pounds in the parchment produce 84 pounds of cleaned coffee; that 100 pounds of cleaned coffee produce 84 pounds of roasted.

After having roasted, the coffee bean is usually sent to the grinding unless it is to be sold in soid form. This operation is done to facilitate the consumer in preparing the beverage, and as long as there continues a demand for ground coffee, there will be found manuiacturers willing to supply it, despite all the well-turned arguments in favor or frinding at home or in the shop at the tome of purchase. Coffee grinding is a big problem, because the coffee begins to loose its strength immediately after roasting , and the rate of loss increasing rapidly after grinding.

Grinding machines are alike in principle in all countries, the beans being crushed or broken between toothed or corrugated metal or stone member , one revolving and the other being stationary. These machines may very in capacity and design, while the average granulator will turn out about 500 pounds of coffee in an hour.

We often find in a more progressive coffee-packing firm three different styles of grinding machines; one called the granulator for turning out the so-called "steel-cut" or medium-ground coffee; the second, a grinding mill for general factory work and producing a coarser ground coffee.

Refer to chapter 12 of Coffee Merchandising for more particulars.

PART VII

COFFEE VALORIZATION

"Valorization is a device which signifies the entrance of the Brazilian Government into its coffee market on a scale which aims to enable it to control the price of that commodity. This is accomplished by the official fixing of prices at a point higher than the prevailing market prices, and by regulating the entrance from the interior into the principal ports of shipment, so that there may be no congestion of stocks to depress the price of coffee and prejudice the smooth working of the operation.

The regulation of coffee shipments in the state of Sao Paulo includes 10 government armazens, or storage warehouses, at strategic points throughout the coffee-growing districts. There is also one in the state of Rio de Janeiro. "All coffee produced in the interior must pass through these warehouses, which can handle a crop of 11,500,000 bags a year. The fazendeiros are given negotiable warehouses receipts."

In this way the government regulates the arrival of coffee at ports of shipment. In July, 1921, entries into

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In Brazil, 1 bag equals to 132 pounds.

(1) Valorization of Brazilian Coffee, Supplement to Com. Report No. 73, Oct. 1922.

Santos were limited to 30,000 bags a day. By official order of July 21, 1932, daily entries for the 1932-33 crop were limited to 28,000 bags for Santos and 11,000 bags for Rio de Janeiro. It was formerly the custom for 80 to 85 percent of the crop to come to the ports within six months after picking had begun.

"The immediate object of the Brazilian Government is to acquire enough of the current crop to enable it to dominate the world market, and, when stocks in the consuming countries are sufficiently depleted, to force buying at prices that are considered remmnerative to the Brazilian growers. An expedient of this kind is made possible by Brazil's extraordinary position in the coffee industry of the world, and demands, moreover, for its complete success a combination of other factors, such as a sustained demand and buying capacity in the consuming markets and the curtailment of the crop by unforseen frosts. It was probably the latter circumstance which saved the Government from a disastrous loss in connection with the valorization of 1918."

It is understood that the resort to such an apparently hazardous measure is only justifable by the fact that coffee constitutes the very basis of the general economy of Brazil and practically the life of the Republic. Its failure

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(1) W.H.Ukers, Coffee Mdsing. pp 211

to yield an adequate profit to the producers is little short of a calamity, not only to this class but to the Federal Government and the governments of the coffee-producing States, particularly of Sao Paulo. Coffee normally represents from 50 to 60 per cent of the total value of the exports of the country, and the duties directly paid by coffee constitute about 40 per cent of the total ordinary revenues of the State of Sao Paulo. Even these figures do not represent the entire importance of the position held by coffee in the general business and financial system of Brazil.

The main reason of the present coffee valorization of the Brazilian Government was the abrupt fall early in 1917 of the price of coffee abroad, in common with prices of other lines of goods, following the inflated postwar conditions. This fall coincided with the inability of Germany and certain other countries to buy anything approaching their former purchases. Due to blockage and to restrictions on imports by the belligerent nations, the first three years of the war were a time of great depression for Brazilian coffee, the price in New York varying from 6 to 10 cents a pound. The crop failure of 1918, however, due to general devastating frosts of that year, created an unheard-of shortage in the consuming markets and put Brazil in a position

to rather dictate the price of coffee, which rose in New York to twenty-five cents a pound. Prices gradually scaled down to a general level of eighteen cents during 1918-19 and 1919-20 crop years.

In 1920, however, several European Governments, disturbed by a continued unfavorable balance of trade, began to place severe restrictions on the importation of coffee, though the unfavorable effect of this on Brazil's interests was partially counterbalanced by another short crop, thereby serving to maintain prices at a satisfactory level. In 1921, began the resumption of something approaching normal buying by European markets, but this increased demand coincided with a large crop, amounting to 14,496,000 bags. Prices fell rapidly, the decline "7s" (1) in the New York market for the 12 months ending in September amounting to over 50 per cent, with the price reaching a low level of 5 cents.

In view of the prospective size of the crop, the dominant elements in the Federal Government, headed by the President and strongly urged by the State Government of Sao Paulo, decided on recourse to valorization as the only measure capable of saving the country from the consequences

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(1) Refer to page 49 for the basic grade of Rio coffee used in New York Exchange

(2) Crisis in Coffee, Sat. Evening Post Vol 198 pp 38-40 Oct. 3, 1925.

of the low price of coffee. The State government of Sao Paulo had already entered the market before the end of 1920 with the purchase of 500,000 bags. The purpose of the administration was announced in March 1921, and the Government began buying at about that time. For some time the valorization operations were conducted on behalf of the Brazilian Government by the Cia. Mechanica & Importadora de Sao Paulo, a very important firm of the country. Later the work of valorization was shared with the Brazilian Warrant Co. an English concern, which has announced its profits for 1921 at 105,000 pounds sterling.

After placing a loan of £9,000,000 in May 1922, a committee was formed, composed of Brazilian and British representatives of the bankers instrumental in floating the loan, to assume charge of subsequent valorization operations, at least in so far as they relate to the utilization of the proceeds of the loan and the liquidation of the Government stock abroad.

A very difficult problem arose in an undertaking of this magnitude. The financing required the carrying by the Government of several million bags of coffee until such time as

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The financing part of the valorization is also related in Commercial and Financial Chronicle, pp 526-7, 661, Aug.1925 entitled "Bankers refuse to hold up Sao Paulo coffee prices to be paid by importers."

it could be liquidated at a profit. General Public opinion was opposed to the usual resort to an issue of paper money. Instead the Government made use of the notes of the newly created rediscount section of the Bank of Brazil. Though the volume of these notes was limited and the time in which they might continue to circulate was fixed, both limits are said during the course of the valorization to have been exceeded.

The supplement to Commerce reports published by the Bureau of Foreigh and Domestic Commerce, Washington, in October 16, 1922, relates the formal agreement made between the Federal Government and the governments of the principal coffee-producing States. The latter were to contribute a certain quota toward the expenses of valorization. It also publishes the following four principal clauses in the contract made between the Federal and States Governments.

"(1)Profits and Losses resulting from these deals shall be distributed in proportion to amounts invested by the national treasury and States entering the agreement, it being clearly understood that any losses which may eventually be incurred shall under no circumstance, in so far as Sao Paulo is concerned, exceed 15,000 contos, the limit of that State's contribution.

"(2) The buying and selling of coffee in Santos and Rio, proportionately to the amount exported from each of these ports, shall be directed exclusively by the Federal Government.

"(3) All coffee purchased either in Santos or Rio shall be deposited in warehouses and insured against all risks.
"(4) Operations resulting from this agreement shall be finally liquidated on the sale of the total amount of coffee b ought by the Government, at which time the national treasury shall present accounts to the State of Sao Paulo."

"There have been frequent rumors of loans floated in Europe at that time for the purpose of refunding the short-time rediscount notes, but no loan was actually placed for this purpose until the joint British-American loan for £1, 000,000 in May 1922, which was floated in London by Rothschild's and Baring Bros., and in New York by an American firm. The American quota of the loan was £2,000,000, and loan was offered at 97, with interest at 7.5 per cent and amortization in 35 years. A first mortgage on the Government stock of coffee, amounting at that time to 4,534,000 bags, held in Santos, Rio, Victoria, London, and New York, was given as security. This coffee represented then a value of about 1,300,000 pounds sterling."

The most important factor affecting the Government's valorization of coffee was the remarkable production of the 1921-22 crop year, which indicated a total figure of 12,868, 000 bags which total exports from Brazil for that year amounted to 12,632,634 bags. Though the long drought of that summer undoubtedly reduced the crop to a certain extent, the desired frost did not materialize, and the diminution in

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(1) Valorization of Brazilian Coffee, sp 3

the crop was not heavy enough to affect appreciably the course of the valorization operations.

In the suddenness of the change the Government of Brazil found popular opinion differing as to the benefits of action taken by the Government as a permanent policy. One publication condemns the permanent protection as a mistake and as instituting a permanent crisis, because it is based on the withdrawal of Brazilian coffee which increases prices, and in this manner creates a good market and excellent opportunities for all competitors. Another editor wrote that coffee will be planted profusely because its sale to the Government is certain. The more coffee planted, the greater the necessity for protection of this industry and the greater the encouragement to competitors, because they will not have to enter the market.

On the other hand, many writers perhaps a majority hold the contrary view of this aspect of valorization. They assert that the establishment of permanent protection for coffee is the corner stone in consolidating the coffee industry in Brazil.

Not to favor one side more than the other, we may say from the past experience and the fruit of the permanent protection, that the Brazilian Government is taking

the right step at the right time. In view of the fact that the Brazilian coffee, on account of the importance in the coffee world, will always be able to dictate the coffee prices to a great extent, if not entirely. It must be admitted that such policy will help to open the market temporarily for the competitive products, but in the long run they will be compelled to sell at the prices desired by the Brazilian Government, because their supply will give out very quickly. This will not be the principal object of the valorization, the Government will devote its effort to advantageously place the coffee in the market by studying, forecasting and improving the product. It will protect it against the financial and industrial speculation. Furthermore, it will be the factor in systematizing the operation and solving all difficulties, in order to maintain for Brazil the leadership in the coffee producing world.

PART VIII

Coffee in the Consuming Countries

The handling of coffee in the consuming countries is even more important than in the producing countries. This peculiar situation is due largely to the larger consumption by accumulation in countries like Europe and America. The table in page 81 will clearly illustrate this point.

The coffee bean, unlike its greatest rival, the tea leaf, depends very much upon foreign countries for consumption. Much more coffee than tea passes from producing to consuming countries. China, as the greatest tea-producing nation is alone responsible for this. The recent estimate shows that some 3,000,000 pounds of tea are consumed by the Chinese each year, thus elevating it to first place in amount used.

While the tea leaves lead in total amount consumed, the coffee beans always occupy a far more important position in International Commerce. They are being imported into non-producing countries to twice the extent of the tea leaves. That they reign over the United States and western continental Europe, particularly Netherlands, France, Belgium, Germany, Switzerland and Scandinavia, as well as South

Africa, Cuba, Southern South America, Java and other producing countries is undisputable.

Since its acquaintance by the modern world, coffee has established a firm foothold in North and South America, Australia and western Europe, but in that vast stretch of territory, beginning with western Russia and extending over almost the whole of Asia it is little known.

Among the western nations the United Kingdom stands out as a conspicuous example of countries that refuse to be conquered by coffee, and the Dominions with the exception of the Union of South Africa, have followed the taste of the mother country. This exception, in the Union of South Africa, is due to the presence of the Boers, descendants of the coffee-drinking Hollanders.

Argentina is the chief coffee buyer among southern countries, and Chile is second. The Cubans, though not big in number rank alongside as the most outstanding consumers of coffee.

The table in the next page will give the comparison of the percapita consumption of various countries, both of the year preceeding the World War and years following that.

The figures are copied from 'Coffee Merchandising' pp 199 and are based entirely on statistics of imports and exports all to not take into account any stocks that may have been held over.

Coffee Consumption Percapita

Countries	Postwar Year	Pounds	1913 Pounds
Holland	1922	10.49	18.80
United States	1923	12.45	8.90b
Canada	1922	2.40	2.17c
Newfoundland	1920a	0.19	0.19
United Kingdom	1922	0.74	0.61
France	1922	9.83	6.41
Spain	1920	2.33	1.64
Portugal	1919	0.86	1.16
Belgium	1922	11.01	12.80
Denmark	1921	13.19	12.85
Norway	1922	14.76	12.29
Sweden	1922	12.96	13.41
Finland	1921	8.25	8.85
Russia	1916	0.05	0.16
Austria-Hungary	1917	0.34	5.54
Germany	1922	1.34	5.43
Rumania	1919	0.29	1.04
Greece	1920	2.97	1.19
Switzerland	1921	8.17	6,48
Italy	1922	2.68	1.79
Egypt	1921	1.03	1.19
Union of S. Africa	1922	4.44	4.19d
Ceylon	1920	0.43	0.36
China	1920	0.001	0.01
Japan	1920	0.01	0.004
Cuba	1920a	13.79	10.00
Argentina	1919	4.40	3.74
Chile	1920	3.06	3.04
Uruguay	1921	3.61	e
Paraguay	1920	0.26	e
Australia	1920a	0.44	0.64
New Zealand	1920	0.24	0.29

a, indicates Fiscal year
b, " " " 1913
c, " " " ending March 31, 1914
d, Based onpopulation figure including both races
e, Indicate figures not available

We notice from the table the wide fluctuations in imports during the war and the period following the war, percaptia figures have naturally changed radically during resent years; but for the most part, the trade in coffee has about swung back to normal, and the percapita figures since the war, as given, are fairly close to prewar figures.

The coffee consumption in Netherlands has not become normal since the war. In 1922, the figures show only 10.80 pounds percapita consumption in that year, against 13.30 lbs. in the year preceeding the war. As far back as 1867-76, coffee consumption there averaging over 13 pounds percapita. It is the truth that Netherlands, for many years before the war led the world in percapita consumption, and no one will deny that this was due to her position in the coffee industry.

As an importer and exporter of coffee, Holland always holds a prominent place. According to a Rotterdam advice, she is said to stand second to Havre. The figures in the next page show six importing units for the coffee year 1924-25.(1)

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(1) The figures obtained from the Tea and Coffee Trade journal, pp 370, March 1926.

	Imports		Deliveries	
	1924-5 bags	1923-4 bags	1924-5 bags	1923-4 bags
Havre....	2,408,000	2,669,000	2,533,000	2,591,000
Holland..	2,260,000	2,229,000	2,359,000	2,173,000
[illegible]	1,483,000	1,[illegible]	1,479,000	1,137,000
Triest...	728,000	648,000	720,000	646,000
Antwerp..	608,000	694,000	583,000	726,000
England...	424,000	348,000	367,000	794,000

These figures also indicate that Netherlands is a great transhipping agent and has been for centuries distributing coffee from her East Indian possessions and from America among her northern neighbors.

The port of Amsterdam handles about eighty per cent of the total coffee trade of Holland. It has been one of the greatest coffee centers since the product was originally introduced into Europe in the later part of the 17th century. As we have already described that in 1640, coffee from Mocha was first offered for sale in the Amsterdam Market, and in 1706, the first shipment of Java Coffee, amounting to 894 pounds, was sold for 23½ "stuivers" (1.17 guilders) a pound in that city.

Subsequently, the Netherlands East Indies existed as the principal source of the coffee supply for this market until the middle of 19th century, when Brazil appeared as a formidable competitor of the colonies. Very soon Brazilian imports surpassed those from the Dutch East Indies,

and ever since that time the Brazilian product has remained as the important article in the Netherlands coffee trade.

The table below represents the total coffee imports in the Netherlands in 1922 and 1923, with figures comparing the Brazilian coffee with others.

Imports into Holland

	1922 TONS	1923 TONS
Unground		
Dutch East Indian	14,476	7,335
From Dutch East Indies	14,124	7,104
Brazilian	22,669	31,939
From Brazil	21,658	25,654
" Great Britain	484	5,895
Other American	18,634	10,882
From Central America	7,743	4,032
" Venezuela	3,273	1,826
" Surinam	2,043	1,774
" Great Britain	1,056	890
African	2,536	1,693
From British Africa	415	749
" Portugal	1,464	637
Other kinds	258	539
From Great Britain	-----	534
Ground	8	11

The total imports of coffee into Holland in 1922 amounted to 58,571 tons, and 22,669 tons of which were Brazilian, while the Dutch East Indian was only 14,476 tons. In 1923, the importation amounted to 52,419 tons

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The above figures and the following are obtained from the Coffee and Tea Trade Journal, November 1924.

with an increase of Brazilian product to 31,939 tons and a reduced Dutch East Indian product of but 7,335 tons.

The imports from other American countries (chiefly Central America) in the same year amounted to 9,315 tons.

The exports from Holland of the same years are shown in the following figures:

Coffee Exports from Holland

	1922 tons	1923 - tons
Unground		
Dutch East Indian.....	11,191	4,953
To Belguim.....	2,459	1,181
" Denmark.....	1,034	666
" Norway.....	1,094	657
" Sweden.....	875	517
" Spain	837	406
" Germany.....	2,091	340
Brazilian.....	6,969	6,329
To Germany.....	1,941	2,194
" Belgium.....	2,384	2,038
" Czechoslovakia.....	472	664
" Switzerland.....	572	360
Other American.....	6,232	9,452
To Norway.....	973	1,794
" Czechoslovakia.....	613	1,582
" Sweden.....	635	1,013
" Germany.....	538	913
" Belgium.....	939	600
African.....	508	207
To Belgium.....	69	115
Other kinds.....	173	112
Ground.....	253	244
To Germany.....	....	209

From November issue of 1924 Tea and Coffee Trade Journal pp 745-50

The exportation of coffee from the Netherlands in 1923 amounted to 21,297 tons, against 25,376 tons in 1922, and 92,000 tons in 1913. Coffee exports were destined chiefly for Belgium (3,947 tons,) Germany (3,659 tons), Norway (2,514 tons), and Czechoslovakia (2,293 tons).

"An excess of 52,957 tons of coffee imports over exports in 1913, 33,195 tons in 1922, and 31,122 tons in 1923, points to a declining, but still a considerable consumption of coffee in that country. The following are the consumption figures of coffee percapita from 1892 to 1923".

1892-96.....	6.73 kilos	1916.....	4.36 kilos
1897-1901.....	7.78 "	1917.....	2.96 "
1902-06.....	7.04 "	1918.....	1.61 "
1907-11.....	6.70 "	1919.....	2.80 "
1912.....	7.75 "	1920.....	5.60 "
1913.....	5.78 "	1921.....	5.10 "
1914.....	6.35 "	1922.....	4.33 "
1915.....	4.32 "	1923.....	4.45 "

A survey of these figures shows that consumption before the War, with the exception of 1915, remained constant and that it decreased during the War. In 1917, when the distribution of coffee was under Government control, the decreased consumption is quite noticeable. It may also be observed that the consumption of coffee increased during 1914 as compared with 1913, which may be accounted for by the fact that large supplies were imported at the outbreak of the war. In 1920 and 1921, the consumption increased

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(1) Tea & Coffee Trade Journal, Vol. 47 pp 745, November 1924.

again to almost the prewar level as a result of the prosperity prevailing during this period. However, with the begining of the economic depression in 1921 which continued throughout 1923, the consumption of coffee which may be considered essentially a luxury, naturally declined.

In spite of the fact that the same unfavorable conditions which have prevailed since the armistice are still exercising their adverse influence on trade and even to a greater extent on the course of business in the coffee market, the trade in coffee for 1923 was not unfavorable. It is true that the Dutch coffee trade too could not escape the consequences of the shattered financial position of Germany which was formerly the principal market of this country's coffee trade; nevertheless it must be inferred from the satisfactory results of arrivals and deliveries.

In all matters of arrivals, deliveries, and stocks of coffee in Netherlands, the port of Amsterdam plays a leading role as already indicated previously. Of the total arrivals in the Netherlands during 1923, aggregating 1,703,117 bags, 1,075,389 bags arrival in Amsterdam, while of total deliveries amounting to 1,916,368 bags, 1,212,[illegible] bags were delivered at Amsterdam. The stocks on December 31, 1923 in Amsterdam amounted to 125,535 bags, of a total of 190,502 bags in the country. On the other hand, the

movement of coffee in this port during the same period illustrates this point, as a total of 173,131 tons handled by the Dutch trade 110,131 tons moved through Amsterdam alone.

The main function of this port in the Netherlands' coffee trade is the handling of the product from the colonial territory. It has numerous sheds and storehouses along the quays which reveal its essential character as a storage port.

Brokers in Amsterdam are the important factors of coffee distribution. "They handle the bulk of the trade and import considerable coffee from the producers, although many of the importers have their own plantations in the Tropics and import direct to an appreciable extent. Even the wholesalers are usually supplied by the importers through brokers, who are restricted from doing their own business, that is purchasing or selling on their own account. They must also charge their customers according to the standard brokerage commission of ½%.

"Most of these brokers are members of the associations known as the Coffee Dealers' Association, the Coffee Brokers' Association, and the Coffee Importers' Association. The members of the association are supposed to do business only with members of the second, and vice versa. The Dealers' Association imports all kinds of coffee; the Importers'

Association on the other hand, being restricted to the Dutch East Indian variety. Practically no direct importing is done by the retailers, who receive their supplies almost entirely through wholesalers.

"In the Amsterdam Coffee Trade Association there are about 180 members, comprising brokers, importers, and roasters who regulate the coffee market in the Association building every morning, and at the exchange house every afternoon.

The working principles of this association are "to promote the trade and against illegal and unjust acts; to oppose misdemeanors; to furnish its members with reliable and accurate information concerning everything connected with the coffee trade; and to create more friendly relations among the many different interests in the coffee trade."

Another important organization connected with the coffee trade in Amsterdam is the Amsterdam Clearing House which is to facilitate the handling of long accounts and to guarantee the fulfilment of contracts. According to fixed regulations and tariffs on behalf of third parties, the clearing house was instituted to take care of the regular course and development of the trade and also to guarantee business on terms such as futures in merchandising and other values and to do everything in connection with this. The Clearing House provides money warrants, storage receipts, shipping

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(1) Tea & Coffee Trade Journal, Vol. 47, pp 750

papers, stocks, shares and securities, or other values. The terms under which coffee is sold by the brokers are either cash against the bill of lading, or cash against warrant, where all of the charges are paid by the receiver commencing with the removal of the coffee from the warehouse. When selling to foreign countries the terms are usually c.i.f. (foreign port) or f.o.b. (Amsterdam warehouse). No credits are granted on first-hand sales, but to retailers four months' credit is extended.

Another interesting trade practice in Netherlands is the work of public tender and auctions, which dispose a large quantity of coffee. "Public tenders are offered everyday in Amsterdam, and the prices are kept secret. The selling is carried out on a spot basis and the delivery within a fortnight, the broker receiving a commission of ½% from the importer and ½% from the purchaser. The auctions are held only occasionally, and in these sales, the highest bidders get the coffee". As has been previously said, a considerable amount of Dutch East Indian coffee is sold through the auction in Amsterdam when it does not get the desired price in Java or Sumatra. It is also of interest to note that a quantity of Brazilian coffee is sold on the Amsterdam Coffee Exchange through a broker commonly known as an agent.

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(1) W.H.Ukers, Coffee Mdsing. pp 203.

After the commodity is bought, the payment is made either against acceptance without discount, or against cash with discount of about 1½% of the gross amount. Cash payment is due on the first working day after delivery. If the seller requires payment upon delivery or at the weighing, then he has to make this known one working day previously before 12 0' clock.

If the buyer wishes to make payment against acceptance or promissory note, he can do so by meeting his obligation 3½ months from date of sale.

When the sale takes place at the auction or tender. the seller has to take care of the registration and the payment of according to the registration law, the fees, however, being charged to the buyer when he makes payment.

PART IX

COFFEE IN CONSUMING COUNTRIES (Continued)

Because tea is the national and universal beverage in the United Kingdom, the consumption, per capital or otherwise, is very low indeed. The table on page 81 gives the comparison of percapita consumption of this country with other coffee drinking nations, and the following figures show the total and percapital consumptions for 1913 and six years begining with 1917:-

	Imports for home consumption	Percapita Consumption
1913. . . .	28,000,000 pounds	0.61 pounds
1917. . . .	28,784,000 "	1.02 "
1918. . . .	47,264,000 "	1.19 "
1919. . . .	51,072,000 "	0.76 "
1920. . . .	35,280,000 "	0.74 "
1921. . . .	34,363,000 "	0.72 "
1922. . . .	35,181,530 "	0.74 "

Judging from the fact given above, the English people will never become great coffee drinkers in the near future. There is yet no sign that the English taste for coffee shows any improvement.

Another interesting figures of comparison of the growth of percapita consumption of tea and coffee in the United

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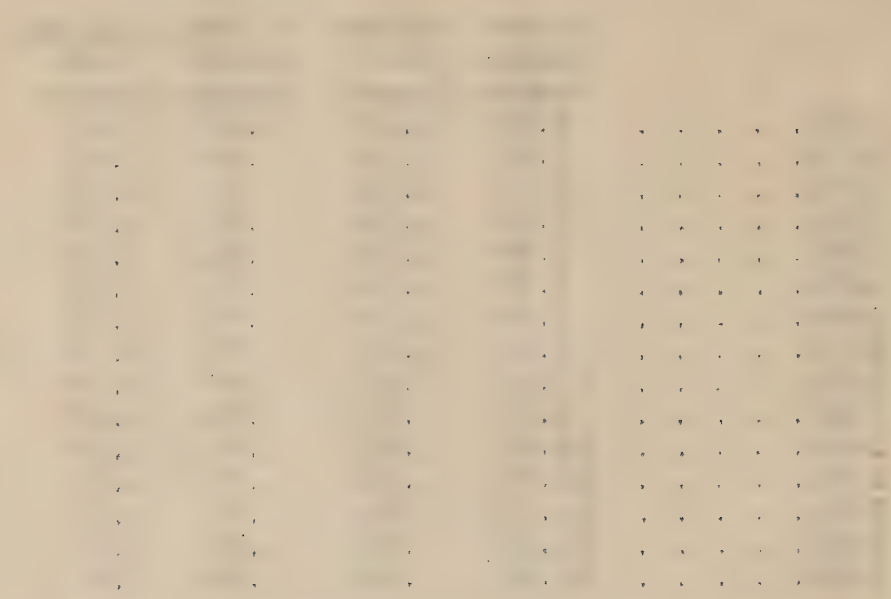
The figures in this page and in the page following are from Coffee Merchandising, pp. 201 and pp.202.

Kingdom and the United States are shown in the following table. They also show the opposite attitude of the public for fifty-eight years toward the two beverages.

	United States		United Kingdom	
	Coffee Pounds	Tea Pounds	Coffee Pounds	Tea Pounds
1866.	4.96	1.17	1.02	3.42
1870.	6.00	1.10	.98	3.81
1875.	7.08	1.44	.98	4.44
1880.	8.78	1.39	.92	4.57
1885.	9.60	1.18	.91	5.06
1890.	7.77	1.32	.75	5.17
1895.	9.24	1.39	.70	5.65
1900.	9.84	1.09	.71	6.07
1905.	11.98	1.19	.67	6.02
1910.	9.33	.89	.65	6.37
1915.	10.62	.91	.71	6.87
1920.	12.78	.84	.74	8.51
1921.	12.13	.65	.71	8.2
1922.	10.97	.76	.74	8.6
1923.	12.45	.94	.74	8.6

In view of the fact that the home consumption of coffee in the British Isles is very small, the total imports of the product in that country amounted to some considerable extent. It is apparentthat the English ports are important ports of transit, and most of the coffee that enters ther are for transhipment.

In the past few months, despite the fact that the coffee trade in London was comparatively small, there emerged an important development connected with the coffee industry. This is the appearance around London of shops that sell coffee direct from the country of production to the consumers.



Kenya was the first country so represented, and that in the past few months no less than three such concerns have been launched is proof positive that the public are attracted to the shop that specializes in one country's product.

Costa Rica is another country with a coffee shop in London bearing its name. Its principals invite the public to write for free samples. Customers are also presented with containers, which when inverted, make just enough coffee for one cup.(1)

Below are the figures giving the total imports, imports for home consumption, and the total re-export of coffee of the Great Britain.(2)

	Total imports cwts.	Imp.for home cons. cwts.	Exports cwt.
1925. . .	671,000	327,000	213,000
1924. . .	572,000	321,000	288,000
1923. . .	425,000	324,000	716,000
1922. . .	1,098,000	322,000	296,000
1921. . .	557,000	307,000	556,000
1920. . .	741,000	306,000	496,000

We will notice that about 50 percent of the total imports are re-exported and sold abroad.

England is a heavy buyer of Costa Rican coffee. Out of the total 1923-24 crop of 40,000,000 pounds, England took

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(1) From Tea & Coffee Trade Journal, pp.506, April 1926

(2) The above figures are based upon papers issued by the Board of Trade as made up from custom-house return.

24,000,000 pounds or more than half, while the United States purchased only one-third.

Up to the outbreak of the war, Germany was the chief coffee-drinking country of Europe, and today Hamburg is still one of the World's important coffee ports. In normal times coffee is brought there in vast amounts, especially for transhipment to Scandinavia, Finland, and Russia. The home consumption has notyet become normal since the blockage which shut off the imports of the products.

The 1924 statistics show 68 percent less import than the average year before the war. The price of coffee became so high that it retails at 80 cents to $1.25 a pound. This has become pronibitive for most poor families, and even the wealthy are reducing their consumption. Heavy import duties, increased transportation costs, and high prices at production centers are responsible.

The German people formerly among the heaviest consumers of coffee in the world, are turning to cocoa and coffee substitutes for their hot beverages. "In 1913, the country imported 371,130,520 pounds and exported 1,783,521 pounds, leaving a net consumption of 369,346,999 pounds. But in 1920,only 90,602,000 pounds were imported; in 1921, the imports show some increase and they fell off again to 80,992,595 pounds in 1922."(1)

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(1) William H. Ukers, Coffee Merchandising, pp.203

Brazil who supplied a considerable quantity of coffee before the war, suffered most from this shrinkage of market.

France was surpassed by Germany in the consumption of coffee before the war, but now she occupies a place next to the United States as the greatest consumer. She draws on all the large producing regions for supply of coffee, but is especially prominent in the trade in the West Indies and the countries around the Caribbean Sea.

Her imports in 1922 amounted to 385,475,860 pounds, of which 445,940 pounds exported, leaving a net consumption of 385,029,920 pounds.(1)

Her port, Havre is one of the greatest coffee ports in Europe. The figures on page 83 illustrate how she has been for three years the greatest importer and exporter of coffee, leading the other five important units.

It has also a coffee exchange which was organized in 1882.

In 1922, the importation of coffee for consumption in Denmark was 50,906,680 pounds; in Norway, the consumption was 39,015,680 pounds; in Sweden, 77,343,640 pounds. They are all heavy consumers, just before the war these three countries each consumed about as much percapita as the

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(1) William H. Ukers, Coffee Merchandising,pp.202

United States does today,- amounting to 11 to 13 pounds a year.

In 1921, the percapita consumption Sweden was the highest in the world. It was 15,25 pounds.

In 1913, Austria imported coffee totaling 130,951,000 pounds, and in 1922, 124,527,000 pounds. She was one of the important consumers of coffee before the war. In 1917, the war cut down the total to 17,910,000 pounds for net consumption. The importation in 1922 was 9,588,260 pounds, and has not yet become normal on account of the economic condition in the country. Large quantities of her imports came through Triest.

The imports of Russia in 1917 were only 4,464,000 pounds compared with Finland's imports in 1922 of 30,459,850 pounds. Russia has never been fond of coffee-drinking.

The imports in 1922 into Belgium were 82,324,000 pounds, into Spain were 41,131,640 pounds. Portugal imported in 1919, 6,926,575 pounds and exported in the same year 1,258,271 pounds leaving 5,668,304 pounds for her home consumption.

Switzerland is a steady coffee drinker, she consumed 29,182,560 pounds in 1922. In Italy, coffee has never become popular, the imports in 1922 amounting to 103,961,000 pounds. Balkan States imported a comparatively small amount of coffee.

The Union of South Africa imported in 1922 coffee amount-

ed to 8,991,400 pounds In the same year, Cuba bought 66,342,000 pounds for consumption. Argentina purchased 38,727,040 pounds in 1920, and Chile, 10,252,220 pounds in 1922. In 1921, Australia imported 3,100,120 pounds, and New Zealand, 250,580 pounds.(1)

The United States consumes more coffee than any other nation in the world. It is very remarkable the way the imports into this country increased during the last century, and they have always followed the steady growth of percapita consumption. The figures on page 81 show the percapita consumption of the United States in 1923; this is about 12.45 pounds. It has increased fifty percent since about 1897.Net imports in the year ending December 31,1923, were 1,407,885 996 pounds. The following figures show the quantity and value of coffee imports for each calendar year from the year 1913 to 1923:-(1)

Year	Pounds	Value
1913. . . .	852,529,498	$104,671,501
1914. . . .	1,011,071,873	104,794,319
1915. . . .	1,228,761,626	113,797,866
1916. . . .	1,166,888,327	118,813,4[illegible]1
1917. . . .	1,286,524,073	1[illegible]2,607,254
1918. . . .	1,052,201,501	99,423,362
1919. . . .	1,337,564,067	261,270,106
1920. . . .	1,397,439,310	252,450,651
1921. . . .	1,340,979,776	142,808,719
1922. . . .	1,246,060,667	160,993,330
1923. . . .	1,407,855,966	189,993,330

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(1) William H. Ukers, Coffee Merchandising, pp.206

The figure for 1923 imports was higher than that of any previous calendar year. It shows a big gains in imports from Brazil, Colombia, and Central America, and a considerable falling off in these from Venezuela, and especially the Dutch East Indies. There is a considerable increase in shipments from Mexico, the West Indies, and Aden.

The United States imported more from Brazil in 1923 than in any previous year, and the amount, indeed, reached two-thirds of the total imports. The total shipments were 934,755,879 pounds valued at $115,881,226 in that year compared with 1922 shipments of 820,546,870 pounds having a value of $98,932,292

In the previous years the shipping and other troubles caused by the war reduced Brazil's share in American purchases from 74 percent in the year before the outbreak of the World War to 57 percent in 1918. Since the close of the war, there has been a slow but steady gain. In 1919, the proportion was 59 percent, in 1920, 60.5 percent, in 1921, 62.5 percent, in 1922, 64,3 percent, and in 1923, it reached 66.4 percent.

The report statistics show the average price of Brazilian coffee imported into the United States to be 12,39 cents in 1923 as compared with 12.32 cents in 1922. The average price of total imports from all countries in 1923 was 13.5 cents, which compares with 12.9 cents in 1922 while ofcof-

imported from non-Brazilian sources was 15.6 cents in 1923 and 13.9 cents in 1922.

Next to those from Brazil are the shipments of coffee from Colombia, which indicate remarkable increase in 1923 over 1922. The total imports in 1923 were 22,720,889 pounds valued at $37,324,925 compared with 191,848,984 pounds valued at $29,568,471 in 1922. The average price was 15.5 ¢ in 1922, and 16.8 in 1923.

The United States imports from Mexico were 37,800,973 pounds valued at $5,130,167 in 1922, and 38,933,431 pounds valued at $6,176,548 in 1923. Though considered normal in size, they are still below the average shipments of several years ago.

The imports from the West Indies also increased to about 20% in volume and 30% in value. In 1923, The shipment amounted to 8,273,127 pounds having a valur of $1,207,664.

Coffee from Central America also registered an increase in 1923. The total imports in that year were 18,286,003 pounds valued at $15,819,156, while in 1922, they only amounted to 99,173,458 pounds valued at $11,77[illegible],387. Though the figures are quite satisfactory, they are still below normal on account of the war and depression.(1)

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(1) For comparison, C.f. Imports of coffee in U.S., Spice Mill, Vol.48, pp.232, Feb.1925

In 1919, Venezuela exported to the United States coffee amounting to 109,000,000 pounds, while in 1923, she only exported to the United States 53,587,162 pounds valued at $3, 539,038, the decrease being more than 50 percent.

In 1923, there was an increase in importation of about 18 percent over 1922 from Aden. The figure for 1923 having been 2,239,015 pounds and a value of $406,069 as compared with 1,901,013 pounds valued at $332,741 in 1922.

Since the war, the American coffee imports from the Netherlands East Indies fluctuated uncertainly, reaching a high mark of 56,000,000 pounds in 1919. The 1923 shipments, amounting to 11,757,923 pounds valued at $2,00[illegible],800, were about the same as those for 1921 and were higher than the usual figures reached before and during the war. The high total imports for 1922, which was 32,097,648 pounds having a value of $3,759, 174, was probably abnormal.

The following table shows the percentage of United States coffee imports by sources of the year 1921, 1922, and 1923:-

	1921		1922		1923	
From	Quantity	Value	Quantity	Value	Quantity	Value
Central America. . . .	8,80	8.6	7.9	7.3	8.4	8.3
Mexico.	2.00	2.4	3.0	3.2	2.7	3.2
West Indies.	1.00	1.0	0.5	0.5	0.5	0.6
Brazil.	62.50	54.0	64.3	61.5	66.4	60.9
Colombia.	18.50	26.1	15.4	18.3	15.7	19.6
Venezuela.	4.40	4.8	5.[illegible]	5.8	3.8	4.5
Aden.	0.20	0.3	0.2	0.2	0.1	0.2
Dutch East Indies. . .	0.90	1.2	2.6	2.3	0.8	1.1
Other Countries. . . .	1.60	1.6	0.8	0.9	1.6	1.6
Total.	100.00	100.0	100.0	100.0	100.0	100.0

The above figures are from Coffee Merchandising pp.210

Much has been said of the prominent place occupies by the United States as a coffee consumer, in order to aid our discussion of coffee trade and methods of handling the product in this country.

The distribution of coffee, green or roasted, in the United Statesis through wholesale houses, who generally operate their business in cities where they are located. But some larger ones who seek nation-wide distribution, have branch houses established at strategic points to facilitate the serving of retail customers with freshly imported or roasted coffee at all times necessary.

The wholesalers usually send the travelling salesmen to every retailer to secure orders. Perhaps this is the most effective agency to sell coffee, though it depends a great deal on the ability of the salesmen. An experienced salesman can acquaint the retailer with all the talking points about the coffee he handles. He must have some knowledge of blending principles if he sell coffee in bulk.(1)

The contract terms offered to retailers vary but slightly. It often happens that the wholesaler helps the retailer finance his business to the extent of granting him 30 to 60 days in which to pay thebill, and offering him a cash discount

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(1) Method or Paying Salesmen in the Coffee Trade, NyY.U. Bureau of Research.

if the invoice is paid within ten days of date of sale.

The sale of coffee in package by the wholesaler increased steadily since the begining of the 20th century. Now, this form of distribution competesstrongly with bulk coffee sales, though bulk coffee is still preferred in some eastern sections of the United States.

"The survey made in New York last year show 1,278,341 families in New York City consume annually 70,532,330 pounds of coffee, or an average of 55.1 pounds. Weekly consumption is 1.1 pound per family. Of this, 62½ percent is bulk coffee, and the remainder, 37.6 percent, is package coffee."(1)

The package coffee, though gaining popularity, has not yet won universal favor. This due probably to the price which is generally higher than the same grade in bulk, and, furthermore, there is a rapid loss of flavor, aroma and strength when coffee is packed ground. On the other hand, many believe that package coffee saves the handlingtime in store, the contents of a package are not contaminated by odors or dirt, the blends are prepared by experts and always uniform, and the coffee is properly roasted or ground.

In this country five types of containers are used for packing coffee, they are cardboard cartoons, paper bags, fiber or paper cans,tin cansand composite cans and packages.

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(1) Coffee & Tea Trade Journal, pp.585, October 1925

In recent years, vacum-packed coffee has won great favor, first in the West and laterly in the East.

The Federal Pure Food Act of January 1, 1907 requires that coffee wholesalers or packers give due attention to certain well defined laws bearing on package labels. Before the Act went into effect, many coffee labels bore the magic names of "Mocha" and "Java", when in fact neither of those two celebrated coffees was used in the blend. Even mixtures containing a large percentage of chicory or other addition were labeled "Pure Mocha and Java Coffee." The enactment of the Pure Food Law ended this practice making it compulsory that the label should state either the actual coffees used in the blend, or a brand name, together with the name of either the packer or distributer.

In the United States, there are seven different types of retail distributers who figure in the merchandising of coffee. They are the independent retail grocers, chain store, mail-order house, house-to-house wagon-route distributer, specialty tea and coffee store, department store, and drug store.

The methods of merchandising of these seven distributing agents are very different. In the case of the independent grocer, the chain store, department store the drug store, and the specialty store, all maintain stores where the cons

sumer comes to buy. The second class isthe mail-order house, which solicits orders and delivers its coffee by mail, and sometimes by freight or express. The last class covers the wagon-route dealer, who goes from house to house seeking trade, and delivers his coffeeon order at regular periods direct to the consumers in the home. As an inducement to contracting for large quantities to be delivered in weekly or biweekly periods, thehouse-to-house dealer generally gives some household article, or the like, as a premium to establish goodwill.

The leadingwagon-route companies, sometimes called "premium houses," maintain offices and plants in cities or towns adjacent to the territories to which they confine their sales efforts. They have district agents at strategic points to engage the wagon men that do the actual soliciting of orders and deliver their coffee. They also handle other products beside coffee.

The importante of the wagon-route plan of coffee-retailing is shown by the fact that in 1924 there were 600 houses of this kind in the United States; andit was estimated that they distributed about ten percent of the total amount of the coffee consumed in the country. The largest concern of this

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(1) For more particulars cf. to page 155-60 of "Coffee Merchandising"

type was capitalized at $16,000,000 and operated 1,100 wagons. These were usually operating in the central states, practically one-third of them covering the states of Illimois, Wisconsin, Indiana, and Iowa. Pennsylvania is also a wagon-route dealer center.

The agricultural districts and small towns are the places which in the mail-order houses are interested in distributing the coffee. They solicite trade by catalogs, by circular letters, and by advertisements in local newspapers, and in magazines which circulate chiefly among the people of those regions.

The work of a chain store, like ordinary retail grocers, differs very materially from those of the previous two mentioned. In this store all customers must pay cash and carry home their bundles, unless the store has delivery service. Roasting, blending, and packing coffee are done in the central plant of the organization, and usually only one grade of coffee is offered for sale.

However, the organizations of such chains seem to be growing rapidly, the largest one being the Great Atlantic & Pacific Tea Company which is reported in 1924 to have nearly 10,000 branches throughout the country, and which sells about 60,000,000 pounds of coffee annually. This company has a capitalization of $13,750,000 and opens about 1,500 new stores every year.

The organization of various chain-stores is being carried out by the National Chain Store Grocers' Association, having 75 members, representing 25,000 stores, operating in twenty-three states.

The chain-store grocer turns his stock over from 12 to 25 times a year, and it is estimated that all the chain-store organizati ns distributed 270,000,000 pounds of coffee a year, or about 20 percent of the total United States' consumption of coffee.

Coffee in different retail tr des is handled in more orless the same way. Many retail dealers areobliged to do their own roasting, blending, packing, etc. A large number of them find it more advantageous and successful for being able to make a feature of freshly roasted coffee, they can save and increase their sales.

Advertising always plays an important role in the coffee trade, whether wholesale or retail. It is the determining factor of successful merchandising especially for the independent grocers who have to compete with the growing popularity of wagon-route distributer, and the chain stores. The best method in such a case seems to be the advertising which appears on the window to display the product artistically so that it won't fail to catch the attention of the passerby.

Other forms of advertising, such as demonstration in the store, at local food shows, and at church socials, picnics, or functions, judicious sampling wither in person or by mail localnewspaper and outdoor poster advertising,and selling coffee by telephone are very common in the coffee trade in this country.

Advertising, for he most part, is designed to attract attention and custom through the eye. Sometimes the ear can successfully be appealed to, but the sounds rarely have any real relati n to the object advertized; and so, often prove unsatisfactory in their results. Not so long ago a California coffee concern made successful appeal to the nose of possible purchasers of its wares, or even many passersby.

PART X

CONCLUSION

To conclude the subject of our discussion, we will begin with a brief summary of what has happened in the past and then widen the scope with general discussion of possible development in the future coffee trade, especially the expansion of such trade between the greatest consuming country, the United States and East Indies, one of the principal source of coffee product. We have in our previous discussion laid certain emphisis on the industry of these places.

It is a peculiar fact that the exports from the Dutch East Indies to the United States never amounted to a large extent. It a common saying this country that a cup of "Java" for a cup of coffee, and yet, how many people realize that the coffee they are drinking are not the genuine Java coffee?

For many centuries this celebrated coffee impressed the American minds and gains favor in the taste of coffee drinkers, but the exportation of the product, neverthless, remains the same, and in many instances declined considerably. The figures in page 101 show that coffee from the Dutch East Indies in 1923

represented less than one percent of the total imports of the United States, while in 1922, it represented over 2½ percent.

Many dealers here when asked about the limited supply of "Java" coffee, simply answered that the product is hard to obtain. A letter from a coffee merchant in Java states the following facts;

The coffee exporters have not sufficient capital to buy enough piculs of coffee for American market, and if they could get enough they would not care to ship to the United States and wait a few months before they get paid. In other words, he extension of credit is too long, and the business turnover would be too slow.

The dealers in Java do not like to assume the risk. When they ship the coffee to a distant market they are likely to encounter troubles and risks which are not expedted in ordinary trade they have.

Another important element is the lact of banking and shipping serveces. The exporters do not want to add up their burden of troubles and attend to every detail of the transaction just for the purpose of having a new market and get more profit out of it. They are perfactly satisfied with the business they are accustomed, because they are sure they can make little profit and receive cash payment. Some-

times they are given advance payment which they can make use for other purposes.

The exporters find it more convenient to employ the service of commission agents oroother brokers who have connection with the big importing firms in Europe especially Holland.

The Dutch commercial influence in the territory has been so great, that more coffee went to Holland than any other place. Quite a considerable proportion of the American imports of the East Indian coffee came through the Dutch ports, and quite a number of American importers who do not know anything about the original source of the coffee they imported.

Even though this trade practice has been very sure and securely established, there is no reason to believe that the continuance of the old practice is necessary. The mutual understanding between the two countriesw willbe developed by direct dealing. If the modern technic of international commerce is introduced the small esporters in theEast Indies will no longer find it harder to send their products to the United States than to sell them to local broker. Other than that the American importer should encourage such transaction by agreemble arrangement on contract term and other financial

aids which ultimately will bring benefit to both sides. There should be no reason that the trade should no multiply within a few years.

Already in the past few years, the Java coffee planters began to show sign of taking more interest in the possibilities offered to them in the high prices of coffee in the world market. Many old coffee plantations situated on the poorest ground are being cleaned up; a number of planters, whose groves have been producing at such a low rate that they could not afford to spend more than a few dollars an acre for maintaining their trees,andhad to centent themselves with the most primitive apparatus for treating their coffee are now buying turbines and motors to replace old steam engines and a few planters are building overhead cable lines for facilitating transportation of the picked berries from the more distant plantation to the treating floors.

This will be a great opportunity, if could be accomplished, for the American as well as East Indian traders to exchange goods and build strong relation between the two places. The American population needs the East Indian products just as much as the East Indian people need the manufactured from the United States.

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